# BUTANE-PROPANE News

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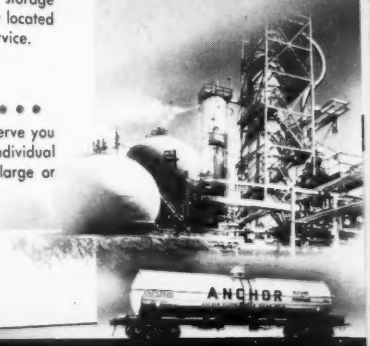


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In a completely impartial, widest possible survey by an independent source, you L-P Gas Dealers and Distributors preferred Hackney Cylinders more than 3 to 1 over the next most popular cylinder . . . more than 2 to 1 over *all* other cylinders combined!

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ou can have your choice of meter dials recording practically any unit of measurement. The side onnections may be tapped either ½ in. or ¾ in. to ccommodate flexible tubing. A top connection style the same meter is also available.

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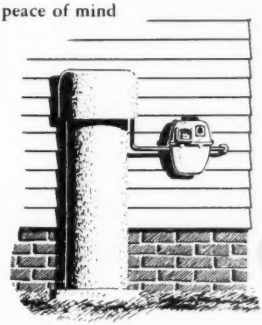

Sketch shows how Rockwell-Emco N 00 meter installs alongside of bottl gas set. No protective housing is neede for this corrosion-resistant meter.

**ittsburgh Equitable Meter Division**
**OCKWELL MANUFACTURING COMPANY**
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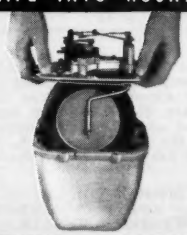
# ockwell-Emco No. 00 LP-Gas Mete

## W TO PUT NEW LIFE INTO ROCKWELL-EMCO NO. 00 METERS ECONOMICALL

Remove only 12 cap ews, then lift cover from body



2. The worn measuring unit is now accessible and can be pulled from the body

3. Take a factory-fresh replacement unit (either new or rebuilt) from shipping carton

4. Insert in the same meter body and replace cover Return old unit to factory for repairs

BUTANE-PROPANE News

APRIL, 1950

*A JENKINS PUBLICATION*

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***Publication Office***

**Los Angeles (4)—198 So. Alvarado St. Phone: DUnkirk 7-4337**

***Branch Offices***

**New York (18)**—11 W. 42nd St. Joseph M. Dematthew, Manager. Phone: CHickering 4-1969.
**Chicago (3)**—1064 Peoples Gas Bldg. David Carmen, Manager. Phone WAbash 2-2589.
**Tulsa (5)**—1341 South Boston. Craig Espy, Manager. Phone: 2-5726.

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Jay Jenkins, *President and Publisher;* James E. Jenkins, *Secretary-Treasurer;* Robert C. Horton, *Circulation Manager;* Gene Masters, *Research.*

April, 1950 • Volume 12 • Number 4

BUTANE-PROPANE *News* is published monthly. Copyright 1950 by Jenkins Publications, Inc., at 198 So. Alvarado St., Los Angeles 4, California. Subscription price: United States and U. S. Possessions, Canada, Mexico, Cuba, South and Central American Countries (in advance), 50c per copy, one year $2.00; two years, $3.50; three years, $5.00. All other countries $3.00 per year. By air mail $8 per year, in U. S. only. Entered as second-class matter May 29, 1939, at the post office at Los Angeles, California, under the Act of March 8, 1879. Member of Audit Bureau of Circulation, Liquefied Petroleum Gas Assn., National Butane-Propane Assn., Society of Business Magazine Editors.

Publishers: G A S, The Magazine of the Gas Utility Industry; HANDBOOK BUTANE-PROPANE GASES; THE BOTTLED GAS MANUAL; Annual BUTANE-PROPANE *News* CATALOG; B-P *News* BULK PLANT DIRECTORY; WESTERN METALS.

# LETTERS

• **BUTANE-PROPANE** *News* **welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed by them.—Editor.**

Gentlemen:

We have two customers on meters and propane in the tank. The pressure on the meters is 13 inches of water column. The temperature varies from 20° below to 40° above.

Will this variation in temperature have any effect on the cubic ft. per gallon of gas?

What would be the correct figure for changing to gallons the cubic feet that the meters register?

E.T.

Colorado

The temperature variation which you have given will have a considerable effect on the cubic feet per gallon of propane. A table, which gives the cubic feet of propane vapor from a gallon of liquid when measured at 14.73 lbs. per sq. in., absolute pressure, and at the temperatures listed, follows:

| Observed Temperature °Farenheit | Cu. ft. of Vapor per gallon of propane when measured at 14.73 lbs. per sq. in. absolute |
|---|---|
| 60 | 36.45 |
| 50 | 35.75 |
| 40 | 35.05 |
| 30 | 34.35 |
| 20 | 33.65 |
| 10 | 32.95 |
| 0 | 32.25 |
| —10 | 31.55 |
| —20 | 30.85 |

Please note that the propane vapors are measured at 14.73 lbs. per sq. in. absolute, which is atmospheric pressure at sea level. The effects of altitude have not been considered, as we do not know whether your meters have been calibrated for operation at sea level or at the elevation of your city. If you are in doubt about this, we suggest that you write to the meter company for advice, being sure to include the serial numbers on the two meters.

The meter measures the gas volume while the gas is subjected to 13-in. water column pressure. The metered volumes should be multiplied by a factor 1.032 before applying the above conversion figures.—Ed.

•

Gentlemen:

A customer of ours wants to know about carburizing with propane gas.

H.E.B.

Minnesota

Propane is used both as a fuel and as a prepared atmosphere for carburizing work. Since it is a natural hydrocarbon gas, it can be used in the same manner as natural gas.

We refer you to Page 232, Chapter 5, of the Handbook Butane-Propane Gases, Third Edition. This chapter briefly describes some industrial applications of LP-Gas, and on Pages 239-240, specifically deals with heat treating and carburizing furnaces.—Ed.

•

Gentlemen:

I have been asked to obtain information regarding the use of propane gas in cars and trucks in Alberta and I would be pleased if you could supply me with information on the following points:

The cost of installation of propane carburetors and tanks.

The approximate number of gallons contained in such tanks on cars and trucks.

The number of miles it is likely to drive a car as compared with an equal gallonage of gasoline.

Its feasibility in winter months,

when temperatures may drop to 40 below zero.

Is the exhaust carbon monoxide.

The readiness of supply of small tanks for car and truck use.

The danger of explosion due to increased pressure during hot weather.

Its explosiveness if the cylinder or tank is a leaky one.

Its toxic properties and all other relative chemical and physical properties and characteristics.

How taxed in the state of California and method of control.

H.J.A.

Alberta, Canada

The present cost of a standard, first-class conversion unit is approximately $225 per engine.

Fuel tank capacities run from 15 to 100 gallons.

The mileage obtained with liquefied petroleum gas is approximately the same as that when using gasoline. The advantages of using butane and propane are not in better mileage but in wear and tear on the engines. Complete combustion occurs in burning the fuel and this results in a minimum of wear on parts and no crankcase dilution. At least 50% is saved in oil consumption. Engines run from 100,000 to 250,000 miles without overhauls.

In cold countries it is sometimes desirable to install a dual carburetor which burns both gasoline and liquefied petroleum gas to effect easy starting. A heat exchanger is sometimes used ahead of the carburetor also.

There is an ample supply of tanks manufactured for truck and car use.

There is no danger from explosion in hot weather on account of the high pressure of the fuels because the tanks containing such fuel are of high pressure steel and made to stand the pressures of the gases.

In California there is a road tax upon the use of liquefied petroleum gas that is the same as that upon gasoline—4½ cents per gallon. This is set by state legislature and can be varied upon occasion.

Butane and propane when improperly mixed with air will give off carbon monoxide, the same as any other gas or gasoline.—Ed.

Gentlemen:

I am interested in conversion gas burners for my steam heat plant.

I have a very good draft in my chimney but it is used by two families. My furnace is in the cellar; on the first floor next door is a coal stove. Is there any danger of using the same chimney for gas heat?

C.E.C.

Pennsylvania

Two heating systems using the same chimney often give unsatifactory service. Usually, one of the units will not function properly because of inadequate draft. However, since you find the two units which you are now uisng on the same chimney are performing without difficulty, they will probably do so after the steam heating plant is converted to gas.

Be sure your conversion unit is protected with continuous pilot flame and 100% safety shutoff of the burner and pilot in order to prevent any trouble if the pilot flame is ever extinguished.—Ed.

Gentlemen:

We are experiencing difficulty with a truck model BI-KMA Dodge. First, we are not getting the power we should have; second, we are having trouble with the exhaust valves and valve guides scoring. In fact we had to replace all the exhaust valves and valve guides at 6000 miles. This is on a new engine.

We understand that by planing the head down we can increase the power. The reason for not doing this thus far is that we cannot find out how much we can plane the head down and still not do any damage. If you can give us any information in regard to these matters, kindly do so.

D.J.V.

Wisconsin

Unless the compression is raised, the engine cannot produce quite as much power on propane as on gasoline. Standard ratio on this truck engine is given to us by the local Dodge truck distributor as 6.45:1. The pas-

senger car head may be used on this engine, giving a ratio of 7:1. It would be desirable to have approximately 7.5:1 for use with propane.

We would suggest that you plane .080 in. off the present head, provided that in so doing you do not thin the head down to less than 3/16 in. You can determine this by measuring the thickness of the casting at the various water circulation holes.

If you find that you cannot safely cut your present engine head, the next best bet would be to get a passenger car head, and plane it down .040 in. In putting a planed down head back on the engine, it is a good idea to lay it down on top of the block without a gasket and without bolting it down, turn the engine with the starter to make sure that the valves will not strike the top of the combustion chambers. If they strike, clear away enough metal at the point of contact to provide clearance, after which the head may be bolted down on the gasket with perfect safety.

Concerning your valve trouble, it is not likely that the original fit between the valves and guides was too tight; therefore, we must assume that the scuffing was caused by running dry. Check the following:

1. Remove the valve cover plates and make sure that there is ample oil circulation in the valve chambers.

2. Excessive back pressure in the exhaust might blow the oil back down the valve stems. Could be caused by kinked tail pipe or clogged or defective muffler, or possibly by accumulation of water in low spots of exhaust system, which might freeze in winter and cause stoppage. See that there is a small drain hole at every low spot in the exhaust line. Make sure that there is free flow of exhaust gas at the tail pipe.

3. Valves might have been overheated by lean mixture in carburetor. This would also contribute to lack of power. See if enriching power adjustment of carburetor increases power. If so, this was probably the main cause of valve failure. It is better and cheaper to burn a little extra fuel rather than to run lean and lose valves and also lose the time necessary to fix them up.—Ed.

Gentlemen:

Can you tell me what is considered good engineering practice to prevent fire hazard as far as venting is concerned for a commercial installation having a battery of restaurant ranges and a broiler?

At this particular installation there is a canopy covering all of this equipment, with the odors and products of combustion carried away by forced draft. The canopy is equipped with filters.

The broiler caught fire and the flame was pulled into the canopy and through the vent. Considerable damage was done and the charred pattern indicated grease must have been in the duct. The duct and canopy were cleaned less than 90 days ago.

Have you any suggestions for making such an installation safer?

What would be a good solvent for removing grease deposit?

F.L.D.

Missouri

You do not specify any cleaning period for the filter so we doubt if the filters in the canopy are cleaned as often as they should be. Ninety days is far too long to operate the duct and canopy without inspection and thorough cleaning. These parts should be inspected and cleaned at least weekly. The filters should be removed and cleaned at the end of each work day on an installation as large as the one you describe.

The only efficient and safe means of cleaning the hood and duct is to swab them down, washing them with soap and water, if possible, after scraping out the residue. Flammable solvents should not be used. The filters should be thoroughly cleaned with soap and water. Detergents found on the market under various trade names are also good for cutting grease.—Ed.

# You'll like being followed by "Mr. and Mrs."

It's a great feeling to know you're being followed by people with money in their pockets and a water heater in mind! These people—the husbands and wives who are the center of John Wood's current national magazine, newspaper, radio and television advertising—have John Wood Automatic *Gas* Water Heaters in mind because they have been sold on the original heat-saving internal flue design with helical heat retarder baffles, the electric weld time-tested galvanized tank, the new higher inputs, the exclusive compact design, the heavy insulation, magnesium anodes and the warranty plans providing up to 10 years' protection. Make certain Mr. and Mrs. follow *you*. Sell John Wood Heaters! Get complete information today!

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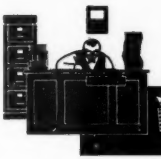
MERION AND PENFIELD AUTOMATIC GAS WATER HEATERS



# COMMENT

THERE were 3,500,000 tractors in use on American farms on January 1 last year, according to latest compiled figures of the U.S. Department of Agriculture.

In 1948, these tractors consumed approximately 3 billion 280 million gallons of motor fuel. This was 40% of all farm petroleum fuel used and, in addition to that, the tractors used 75 million gallons of motor fuels.

All of these tractors would work better and more economically for the owners if they were converted to burn LP-Gas. One tractor account will use as much fuel as from 6 to 12 domestic accounts. That makes it easy to see how quickly dealers could balance their summer loads against their winter demands if they were to sell even a small percentage of tractors in their areas.

The use of LP-Gas in internal combustion engines is the biggest unexploited, potential fuel use for LP-Gas dealers. It is time they realized this and begin a systematic campaign to garner this rich harvest.

•

When associations of LP-Gas dealers are formed in the various states, the first ones to join are the careful and successful operators and later membership campaigns are usually directed to the same caliber of operators. They unite to exchange beneficial information upon operating and safety problems and to further the best interests of the industry in their communities. This includes greater protection to consumers.

Too often the tendency is to pass up or ignore dealers whose reputations for safety are bad but, actually, the more careless the operator, the greater the need is to bring him into an association where he can contact men who know how to make proper installations and who guard their reputations for safety as the most sacred asset they have. It is only through contact with good operators that bad operators can be inspired to change their ways.

It might be a good plan for all associations to give consideration to this thought and to start a membership campaign directed primarily to those comparatively few dealers who are cutting prices, making slovenly installations, and ignoring the safety laws of their states. Nothing could help the industry more.

•

Here is an illustration of the soundness of this logic:

On one field trip last year, an insurance inspector had occasion to inspect the bulk plants of nine applicants for insurance. Seven of these were turned down because they did not meet requirements. The other two were satisfactory.

Inquiry by this inspector developed the interesting fact that the owners of these seven unsafe plants belonged neither to any association nor subscribed for an industry mag-

azine. They did not even know of NBFU Pamphlet No. 58. The owners of the two plants which were passed belonged to national and state associations and did subscribe to BUTANE-PROPANE *News*.

The owners of the unsafe plants showed a commendable spirit. They asked what they should do to put their plants in order and where they could purchase magazines and text books which would give them a better foundational knowledge of the business they were in.

Had they been approached by association officers and made aware of the efforts within the industry to promote safety, they would have had better knowledge upon which to install their plants.

Is not the moral plain?

•

LP-Gas range and water heater shipments increased for the first time in many months in November, according to manufacturers reporting to GAMA.

Ranges were up 14.2% over the corresponding period of 1948; water heater shipments rose 11.9%.

•

According to the president of the Edison Electric Institute, Elmer L. Lindseth, nearly 600,000 additional farms were connected to electric power lines in 1949—a 12% increase in electric users.

Mr. Lindseth also claims that by the end of 1950, 92% of the 6,000,000 farms in the country will be electrified. REA claims 80% are now electrified. Service will be available to 97% of the total.

•

Destruction of property and resources in the United States totalled $547,141,000 during the first 10 months of 1949, according to estimates of the National Board of Fire Underwriters.

This figure is 7% below the total for the first 10 months of 1948. Losses in 1948 were the highest in the history of the nation, totalling $715,074,000 for the full year.

October's fire losses reversed a usual seasonal trend by declining slightly. They totaled $48,914,000, a decrease of 5.7% from losses of $51,845,000 in October, 1948.

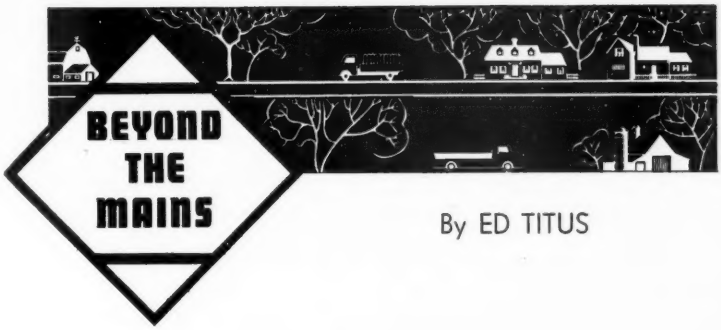
•

In April, 140,000 enumerators of the Bureau of Census of the United States Department of Commerce will take the 17th decinnial census of the nation.

These enumerators will travel an estimated 25 million miles to call at about 45 million dwellings, in thousands of cities and towns and on six and one-third million farms—to enumerate an estimated 151 million persons in the United States.

The Census Bureau will tabulate about 15 billion facts these census takers collect.

By Ed.




By ED TITUS

AN LP-Gas man from Europe makes this observation:—The government takes half his profits, if he makes a profit, but doesn't reimburse him if he loses. He'd rather go to a gambling table at Monte Carlo, where the house takes only two per cent. He doesn't really mean it, of course, because he's still in the LP-Gas business.

Still he has a thought. And business in this country, large and small, would have more incentive, too, if business men didn't have to put so much in the kitty in the form of taxes. If the government is looking for more tax sources, plugging up loopholes, etc., how about REA co-ops?

•

Here's a thought on one way to meet the arrival of natural gas, which is happening in many places, particularly in the Northeast:

The Fuelgas Corp., with head offices and bulk plant in Chester, N. Y., knew natural gas was going to be extended soon in part of the area they serve.

So they've organized their own gas utility, to serve the towns of Greenwood Lake, Warwick, and Florida, N. Y. They have the engineering all complete, and have obtained local franchises, Morris Birnbaum, president, reports. They expect to proceed following clearance with the New York State Public Service Commission.

They plan to go ahead and install mains, and distribute straight natural gas to their present bottled gas customers and others. To begin with, Mr. Birnbaum said, they expect

2500 meters. Later they hope to build a belt line system, and possibly raise the total to 6000.

The new utility will be called Warwick Gas Corp. It's reported to be the first gas utility formed in New York State in 22 years.

Propane will be used for peak shaving.

Meanwhile in the rest of their territory, Fuelgas will continue their present extensive LP-Gas operation.

•

Add to thoughts on what little things can have a big effect on a sale:

A large automobile manufacturer learned that when people brought in their used cars for trade-in allowances, they objected:

1. To having the tires of their old cars kicked;
2. To having the doors of their old cars slammed by the salesman.

The company assigned a psychiatrist to find out why. The reason, however, is unimportant. But the company decided if a customer didn't like his or her car kicked, it wouldn't be kicked.

We don't know anyone loony enough to kick a customer's old stove.

However, there does seem to be a thought in the absolute necessity of studying the little things, the little psychological quirks of human beings, in today's stiff competition.

•

One manifestation of growing pains of the industry in the East is the occasional pastime at association meetings of asking all "peddlers" to stand up—or possibly trying to learn how many of all those present come from within the territory to be served, and how many from outside.

But an "oscar," both to those who come from outside the state, and to those within a state who get up off their seats and into their cars, and step on the gas till they've crossed a few county lines, to get to a meeting—and thus help fight the industry's battles.

And if there are not enough local rank-and-file dealers present, don't blame the peddlers and out-of-staters. Go out and talk to the rank-and-filers not present, and bring 'em back alive.

# Distributor Nets 37,000 Prospects From Exhibit at Fair

By JOE BAER

TO A sales-minded organization, no opportunity is overlooked to find new prospects—for from today's prospects come the sales of tomorrow.

But no one in the organization of Butane Corp., Phoenix, Arizona, was quite prepared for the avalanche of prospects that descended upon it last year as a result of the company's personnel-manned display booth at the Arizona state fair, held locally.

During the short period of the fair, 37,000 names and addresses were obtained of Arizona residents who expressed interest in what LP-Gas can do to ease household and farm tasks, and who stated they would like to know more about the appliances and equipment essential to its use.

Thirty-seven thousand prospects are enough to pop out the eyes of even dyed-in-the-wool, sophisticated salesmen, still flushed with the conquests of the lush years following the close of the late war. And it demonstrates in no uncertain manner that the saturation point for butane-propane installations lies far in the future for Arizona dealers.

George W. Miller, Jr.

Butane Corp.'s booth at the Arizona state fair last year produced 37,000 names for its mailing list. This record list was secured by give-away tickets on a Tappan range and a General water heater. The booth was operated by Mr. Miller's sales department.

But state fair lookers, turned into prospects by attractive displays, is a bonus potential for Butane Corp.'s salesmen. They have other methods—regular run-of-the-mill methods—of digging up plenty of prospects through hard, but constructive, canvassing.

A crew of hard-hitting salesmen, led by George W. Miller, Jr., sales manager, is making sales history right along for Butane Corp. The year 1949 was a record-breaking one in this regard and, according to Spencer H. Nitchie, vice president and general manager, set a mark that won't be easy to surpass in 1950 even with 37,000 fair prospects to draw upon!

Behind the sales organization that gave the corporation such a good record last year, is the story of an effective sales formula:

1. Sales are surer and close faster when salesmen work as a team with the sales manager or assistant sales manager.

2. A cooperative lead plan turns the entire staff, including outlying direct branches, from office workers to servicemen, into "feeders" of leads to the salesmen.

3. An incentive pay program

DATE:_____

Prospect:_____

Location:_____

Interviewed by:_____

Type of Interview (Check One):
Telephone_____
Sales Floor_____
Outside Contact_____

Interested in: (Check)

Butane System_____
Cooking Stove_____
Water Heater_____
Space Heater_____
Refrigerator_____
Miscellaneous - Describe:_____
_____

Remarks:_____
_____
_____
_____

Received by Sales Manager in Duplicate
(Initials)_____

Prospect given to:_____
(Salesman)

The service force uses this mimeographed form to record prospects. An employe earns one per cent commission on the gross sales.

makes it profitable for employes to dig for sales.

Here's how it works in Phoenix. Each man has his own territory within a 100-mile radius from Phoenix. Mr. Miller and Glen Boyer, assistant sales manager, go out with the men.

"Our experience shows that working as a team boosted appliance sales about 30% over the single-salesman method! When one man keeps telling his story to many prospects day after day," Mr. Miller declared, "he sometimes can't tell when to ask for the order. In fact, he somehow hesitates to ask for the order.

"Thus the second man helps produce sales by following through and bringing the sale to a 'close,'" Mr. Miller said.

"Often, teamwork results in extra sales," he continued. "I was working with Clifford Standley, our salesman in the Chandler area. We called on a user of our LP-Gas system to sell a heater. After Mr. Standley sold the customer a heater, the woman started to talk about her range. As Mr. Standley was writing the order for the heater, I took off the top grates of the range. The range had seen its best days.

"The result was that we sold this customer a range, too. Teamwork helped clinch the second sale," Mr. Miller said. "The extra man along with the regular salesman has a chance to help create a desire for the appliance."

Mr. Miller explained that 85% of the firm's sales were made in rural areas. The effect of teamwork on rural trade was this: Customers appreciated the fact that Butane Corp. sent two men to explain the use of a gas appliance or the overall gas system!

Concerning the cooperative lead plan, Mr. Miller says: "Every day I get three or four leads at my desk from our service personnel. When a woman is talking to one of our servicemen, an installer, or a delivery man, she's not 'on guard' as she is when talking to a salesman. She tells him that maybe she wishes she had a new refrigerator, or heater, or perhaps she'll be tickled when she can swap the old beat-up range for a new model.

"The service employes note their leads on mimeographed forms. The completed form indicates how the lead was obtained: by phone, on the sales floor, or outside; and the appliance or appliances in which

Glen Boyer

The staff of Butane Corp., Phoenix. This staff, as well as the service forces of the outlying direct branches, supplies prospects to Butane Corp. salesmen under the cooperative lead plan.

the prospect is interested are checked from an itemized list."

The lead is then given to the salesman in whose territory it belongs. We average between two to three sales daily from these leads.

After a sale is made, Butane Corp., not the salesman, pays the person who supplied the lead 1% commission on the gross sale.

This is the basis of Butane Corp.'s lead system: The servicemen keep their eyes open for good leads. The salesmen take these tips and fan out from the prospect to new leads among his neighbors. Once they start on a cooperative lead, the salesmen "canvass out" the area.

The pay schedule that pays off in appliance sales is as follows:

Each salesman receives a base salary of $150 a month, *not* charged against commission.

"We feel we have an obligation to our 5000 customers to contact them from time to time," Mr. Miller said. "When our salesman calls on these folks, he's 'Mr. Butane Corp.' This salary, therefore, is in addition to his earnings as sales."

On sales, salesmen are paid a basic 4% commission on appliances. Each three-month period, a man's sales for the period are totaled. If in this period his average monthly sales were between $2001 and $2500, he receives a bonus commission of 1%. Average monthly sales of $2501 to $3000 give him an added 2%; $3001 to $3500, 3%; $3501 to $4000, 4%; $4001 to $4500, 5%; $4501 to $5000, or over, a bonus commission of 6%.

The firm also supplies their salesmen with gasoline, motor oil, and lubrication.

Salesmen take their turn at 1-

day store duty. This gives them a chance to obtain floor leads, and to bring their customers to the showroom. It also gives them a chance to do their "paper work" and make phone calls.

**Commission Plan Is Fair**

If a man on "floor duty" makes a sale to a customer in another man's territory, the man on the floor receives 1½% of gross sale. The man in whose territory the customer belongs gets the balance of 2½%. The sale also counts toward the territory man's bonus volume.

The firm also pays the salesmen flat fees for tank leases. These increase progressively from $3 for a 61-gal. tank, to $23 for the 1000-gal. tank.

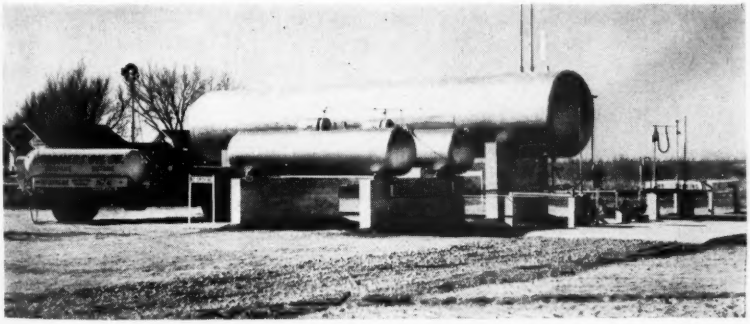
Customers are followed up within a week after a sale is made. This results in better customer relations and brings additional leads from the customer's family and his neighbors who have admired the new appliance.

This is the planned, aggressive program that continues to break retail appliance sales records for Butane Corp.

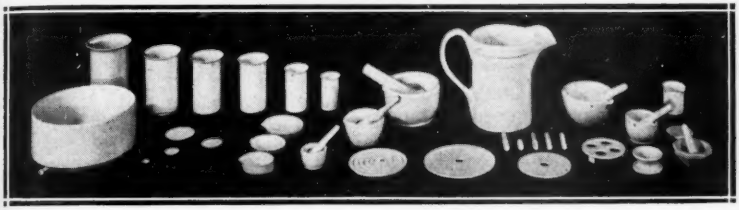
## Kansas Dealer Adds Bulk Storage Facilities

Walter Unruh, LP-Gas dealer in Montezuma, a town about 40 miles southwest of Dodge City, Kan., recently added bulk storage facilities to his operations to serve his customers better.

The bulk plant was designed and installed by the Pasley Manufacturing & Distributing Co. of Kansas City, Mo. It consists of one 12,000-gal. propane storage tank and two 1000-gal. tanks for butane service. Rego valves and a Viking pump are used.



**This bulk plant in Montezuma, Kan., has 12,000-gal. propane tank and two 1000-gal. butane tanks, owned by Walter Unruh.**



# PROPANE STANDBY

## GIVES CONTINUOUS CONTROL—CUTS COSTS IN CERAMICS INDUSTRY

By J. ARTHUR THOMPSON
Eaton Metal Products Co., Denver

THE manufacture of fine pottery demands the most reliable fuel source that can be found.

When a kiln is fired up and loaded with pottery there must be perfect heat control at all times. In the ceramics industry, this is a serious problem. If the heat fluctuates or the fires go out in a kiln, it is possible that you will lose not only the ceramics load in the kiln but also the kiln, itself. There is just too much money involved to take chances.

The Coors Porcelain Co. of Golden, Colo., found the answer to this problem of heat control in natural gas with an LP-Gas standby. The standby consists of a VM-6 "Gasair" machine engineered by Gasair Associates, of San Francisco, and manufactured by Eaton Metal Products Co. of Denver; two 30,000 gallon (W.C.) capacity tanks and a 2500-cubic-foot surge tank with appropriate regulators, etc. The VM-6 has a 25,000 cu. ft. per hr. capacity. It has proven itself time and again since its installation.

It has accomplished several things. It gives a reliable, ever-ready standby to take over the load at any time that natural gas

THE OPENING of one of Coors' giant tunnel kilns, with a load of chemical pottery in the "biscuit stage" ready for firing.

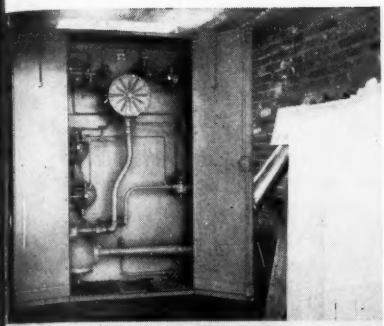
should cut off or fail for any reason. The fact that Coors has this standby provides the company with a "dump rate" on its natural gas and makes a very material saving on the cost of that gas. Straight propane is used through the machine and the ample storage capacity enables them to buy to the best advantage and have their standby fuel on hand at all times.

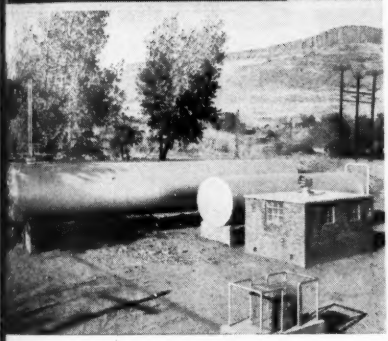
The load which this machine may be called on to assume varies from time to time, as would be expected. The heating load, alone, carries the entire plant which is estimated in excess of 1,350,000 cu. ft. Besides this, there are two continuous circular kilns, three continuous tunnel kilns, eight periodic kilns of various sizes, laboratory furnaces, and many other small appliances which must be taken care of when and if the natural gas is cut off. Naturally, not all of these kilns are run at the same time—but the load is large enough to give a pretty thorough work-out to the Gasair machine whenever it is cut in. Temperatures of 2500°F and above are demanded.

During the winter of 1948-1949, the Gasair standby equipment was called into use nine different times for periods varying from 12 hours to 60 hours. Other years, the machine has been in use oftener and for even longer periods of time.

The Coors Porcelain Co. has been in existence since 1884 and

ONE OF THREE tunnel kilns at the Coors plant, this huge oven is 240 ft. long.





AT TOP: View of VM-6 Gasair Machine with doors open showing interior.

EXTERIOR VIEW of Coors propane standby plant, showing surge tank and two 30,000-gal. storage tanks. Gasair machine and Eaton compressor are housed in brick building.

produces the very finest of scientific and chemical ceramics ware. Laboratories and scientists generally recognize Coors as the leader of the scientific ceramics industry in the entire world.

Besides the crucibles, funnels and various porcelain items for laboratories, Coors makes industrial insulators, combustion and pyrometric tubes; also ceramic specialties such as beer mugs to delight the hearts of the college boys and gay salt and pepper sets, colorful vases, and other items to take the eye of the housewife or gift buyer.

All these materials must be of uniformly high quality throughout. There can be no variation. The Gasair machine, fueled by propane, takes care of the standby fuel requirements to produce this high quality and uniformity.

## Italy Plans to Spend $2,000,000 Modernizing Gas Plants

A record volume of purchases of American gas equipment is now scheduled as part of a nation-wide gas-plant modernization program in Italy, Virgil Stark, president, North American Utility and Construction Corp., New York City, states.

In contracts recently negotiated abroad, he said his company has now started work on $2,000,000 worth of plant construction or modernization projects in Rome, Milan, Florence, San Remo and Ferrara, among other locations.

Backed by Economic Cooperation Administration funds, the contracts have now been confirmed by deposits of irrevocable letters of credit with New York banks, he said. Problems of devaluation of currency abroad are not expected to arise because all transactions are in American dollars.

The new installations will include gas generator sets which will process natural gas and propane. This equipment will be the first of its kind in Europe, Mr. Stark disclosed.

# YOU CANNO

Top: One of Norcal's drivers crawling out of a pickup in Dunsmuir. He was snowed in eight ft. deep.

Second from top: Digging out in front of Norcal Gas Co. in Weed, Calif.

Second from bottom: One of Norcal's motel customers in the Weed area.

Bottom: One of two trucks operating in four feet of snow.

# AN NOW" NORCAL GAS CO.

WINTER came to Weed, Calif., with a vengeance this past year. By the middle of January snow was piled so deep that most of life's daily tasks had slowed to a halt—or, at least, a slow crawl.

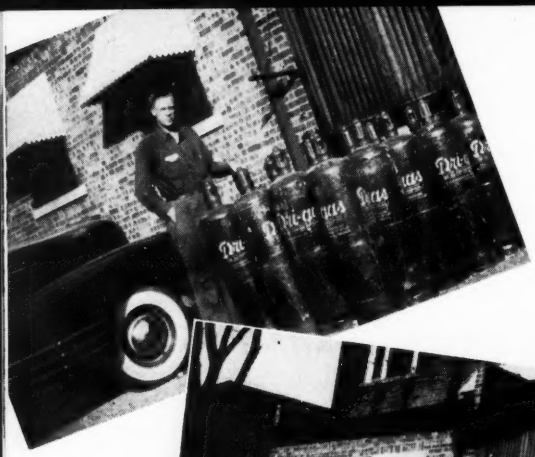
For a time even the delivery of LP-Gas was halted, but of course this didn't last long, for, as one driver was heard to say, "the gas must go through."

J. S. Silveria, owner of the Norcal Gas Co. at Weed, felt much the same way. Besides it was rather old stuff to him. He has seen hard winters and deep snows before.

They were closed up for three days along about January 12 but they managed to dig out, bulldozed a road to the plant and went to work.

One of their toughest deliveries was to a family stricken with polio. The county road crew bulldozed a three mile road for four hours to get through to the home. But the LP-Gas was delivered before the tank had been emptied.

Filling a customer's 500-gal. tank two days after the blizzard.



Left: Robert Klaus, owner of Eureka Hardware Co., and empty cylinders for bottled gas at rear of his store. Below: Vernon Hartler, one of Eureka Hardware Co.'s servicemen, ready to deliver an emergency cylinder.

# "SUPER-SERVICE"

## IS NEW BUSINESS BUILDER FOR ILLINOIS DEALER ON ELECTRIC LINES

By HARRY L. SPOONER

The Eureka Hardware Co.'s., Eureka, Ill., "Dri-Gas" franchise is 98% on electric lines. Robert Klaus, owner, insists that this is not a competitive factor. New customers come largely from leads furnished by old customers who like what Mr. Klaus terms his "super-service" — which is a 24-hour customer service with a zip.

He has discovered some unusual uses for bottled gas in his area — scalding hogs, rendering lard, and drying ink in a print shop are some of them.

His methods of promotion in the "pumpkin center of America" should prove interesting.

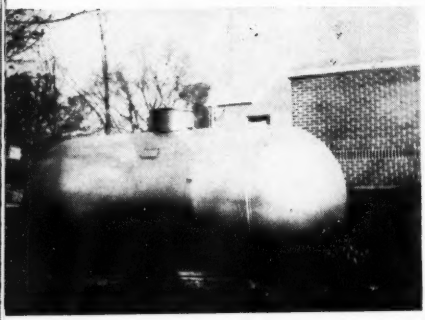
WHEN the Eureka Hardware Co., Eureka, Ill., a village of 2200 population, took over the "Dri-Gas" franchise, it had a nucleus of three customers. Robert Klaus, proprietor, says he now has 250 household customers and several commercial houses that use bottled gas.

While much promotional work had to be done in the beginning to acquaint prospective customers with the advantages of bottled gas over other types of fuel, the greatest factor in keeping old customers satisfied and in securing new ones has been the type of service rendered—in reality, a super-service.

Mr. Klaus has trained two of his employes in bottled gas service work. Either of them can deliver gas, install appliances and do whatever service work is necessary. They can also thoroughly explain and demonstrate the operation of appliances.

The big thing in the firm's service program is that one or the other or both of these men are available for customer service at any time of day or night. While, as a usual thing, customers keep track of their gas, some occasionally forget to notify the firm when they switch over to the second 60-pound cylinder in the dual cylinder installation. As a rule, gas is delivered periodically on established routes, but this is not always possible as customers quite often are compelled to use more gas sometimes than the usual amount.

Calls have come in for service at midnight when a card party or



A home installation of a 1000-gal. tank of bottled gas by Eureka Hardware Co.

other gathering in the home is in progress and it is discovered that the gas has been exhausted when it is desired to serve coffee. A phone call to one of the servicemen results in quick service.

"In this regard," says Mr. Klaus, "we feel that we are acting as a public utility and we feel a lot better when they call us at once—we would much rather that they inconvenience us than to inconvenience themselves.

"One of our servicemen is going shortly to Chicago to a two-day service school sponsored by our distributor. We are always looking for knowledge of better ways of performing service in order to give the best possible attention to service needs of customers.

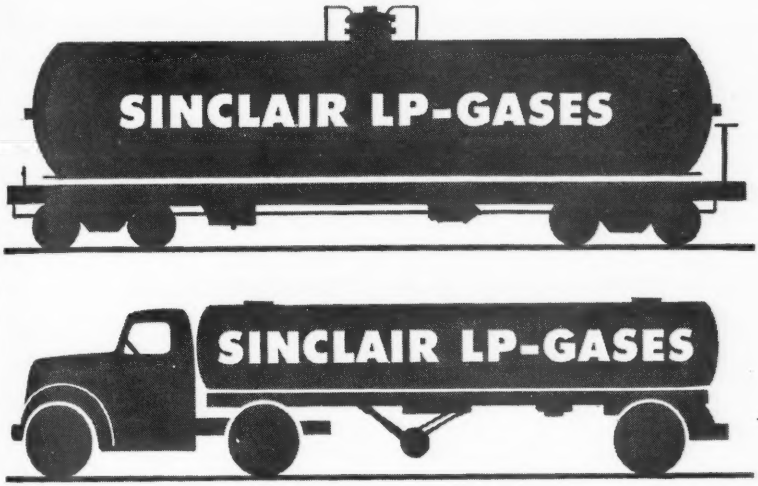
"In our service program, we stress to users that we want them to use a lot of gas but we don't want them to waste any. Therefore, if we find that customers are using more gas than usual, we at once inquire to find out the reason —whether they are actually using more or there may be a leak. If we find the latter, it is at once corrected. We think it better business to stop any waste because the economical user will boost us with neighbors and friends who may not be using bottled gas."

Eureka is the "pumpkin center" of America. Each year a "Pumpkin Festival" is held in the village that attracts around 50,000 persons in two days. To feed this immense throng, many temporary "stands" are necessary. Mr. Klaus takes a double-barreled advantage of the festival. First, he has a display of bottled gas appliances and a guessing contest with prizes given. This results in securing a considerable number of new prospects. Second, he equips many of the booths serving meals or lunches with temporary arrangement for cooking facilities with bottled gas. The tanks are in plain sight and all bear the name of the gas so visitors can tell the kind of fuel being used. This is a good promotional stunt and carries with it the idea of good service.

### Employes Use Gas

Another good promotional stunt is the fact that Mr. Klaus and his three employes each use bottled gas in their own homes for cooking. In addition, Mr. Klaus also uses bottled gas for water heating and for heating his home. "We take prospective customers to my home," says Mr. Klaus, "and dem-

# What makes these Vehicles so much ALIKE?

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onstrate bottled gas in actual use. We have found in home heating that this fuel costs a little more than oil, which we formerly used, or electricity, but the difference in cleanliness and in having heat even though electric power may be off, fully offsets the difference in cost. We have a 1000-gallon tank of gas and use everything off this one tank which makes the cost of water heating and cooking cheaper than when cylinders are used. Our own installation has been of great value in impressing prospective customers with the advantages of bottled gas."

The installations in business places for special uses are also impressive. Customers and prospective customers are impressed because they know if business concerns consider bottled gas to be of advantage, it would be so to them also. It also carries the idea that good service must be rendered or these places could not and would not use gas.

### LP-Gas Dries Printer's Ink

The local locker plant uses bottled gas for scalding hogs, for rendering lard and in the smoke house. A restaurant is using it for cooking in the grill, for water heating, and for a supplementary heating system in two rooms in which space heaters are used. A printing office uses it to dry the ink more rapidly on printed matter.

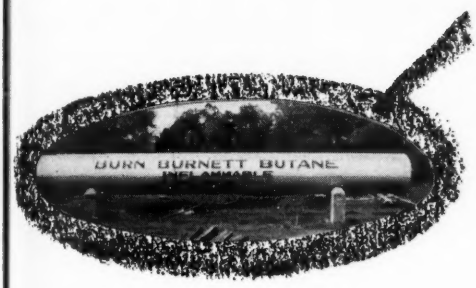
The firm carries an ad occasionally in the local newspaper. It also participates in direct mail sent out by the distributor. Envelope stuffers are enclosed with monthly statements from the store. "While all these help in promotional efforts," says Mr. Klaus, "the leads that we get from people coming in and making inquiries, many of whom have been directed to us by present customers, along with the names given to us directly of prospective customers by these old customers, are far more effective than any other method of promotion. We follow all these leads up by personal solicitation and by demonstrating, if necessary, at my home."

Of course, window and floor displays of appliances are a great help in promotional efforts.

"The bottled gas and hardware business work well together," says Mr. Klaus. "With gas customers coming in once a month to pay their bills, this cannot help but be an asset to the hardware department. Vice versa, hardware customers are attracted to the appliance displays and give us an opportunity to talk bottled gas and appliances."

A decal Dri-Gas sign on each side of the delivery truck, which is on the road much of the time, impresses persons along the highways with the popularity of bottled gas.

"Electricity is practically no competition for bottled gas," remarks Mr. Klaus. "Fully 98% of our customers are on electric lines. The big percentage of new customers comes from leads furnished by these old customers—and a big factor in their recommendation of us is because of our superior service."




"Burn Burnett Butane" is the ever present painted slogan on the tanks of this Arkansas butane enterprise whose advertising increases at the rate of two installations per month.

# Sawmill and Dairy Users Increase Profits Through Butane Use

By ZOE JOHNSON

CLINTON, ARK., lying in a mountain valley in Van Buren county, where, until recent years, there was little agricultural development, has now developed into a prosperous community primarily as a result of stock and poultry raising.

JAS. A. BURNETT

Accompanying this development, and probably assisting it in no small degree, has been the introduction of liquefied petroleum gas, which has raised standards of living and in many instances increased farm yields through better equipment made possible with this fuel. Until the advent of LP-Gas, wood and kerosene were the only fuels available in the rural homes in and surrounding Clinton. For years to come there could be no hope of natural gas.

One of the town's oldest residents, James A. Burnett, came home to Clinton several years ago after 10 years' government service in the Northwest, Alaska, and the Aleutians to wait for reassignment. Looking around his home town, he noticed many new business opportunities unsurpassed by any he had seen in his travels.

Mr. Burnett decided in favor of Clinton and opened the first complete hardware store in the town four years ago with a capital of approximately $5000, gradually building a good plumbing business. He added butane to his enterprise only one year ago, but among his 250 customers are two who have

LP-Gas utilizations that are unusual.

Mr. Burnett's largest customer —one of the biggest users of LP-Gas in northwestern Arkansas—is the Lewis Brothers sawmill, not far from Clinton. That company has storage capacity for 7000 gals. of butane and uses an average of 160 gals. each day for drying wet lumber in its large kiln. The LP-Gas drying system for the kiln was designed by them, and includes a large gas pipe running the length of the room, at regular intervals of which are installed large gas reflectors, completely covered to prevent possible ignition of lumber. The Lewis Brothers also worked out a system of regulators and thermostats which keeps the temperature inside the kiln at a constant 170°, 24 hours a day, and a large electric fanning system in the roof that keeps the heated air circulating evenly.

The Burnett Hardware Co. store in Clinton, Ark.

The great lumber crates—carrying 15,000 ft. of lumber each day —move along a double track that runs through the long kiln and to the drying sheds beyond. In the Lewis Brothers' 24-hour operation, green lumber moves into the kiln as dried lumber moves out. Before the kiln was made to operate on butane, the cost of drying wood was $5 per thousand feet; with butane, the cost is $1.57 per thousand feet. The Lewis Brothers' 100 employes bring wood in from the surrounding forests to be cut and dried. It is left in the drying kiln about 72 hours.

The second largest consumer of Burnett butane is the McKnight Dairy Products Co., a producer of about 2000 lbs. of cheese each day, which are trucked to market in Joplin, Mo., daily. Olen McKnight is owner of the company. C. C.

The McKnight dairy storage tanks.

The butane storage tank of Lewis Bros., showing lumber kilns in background.

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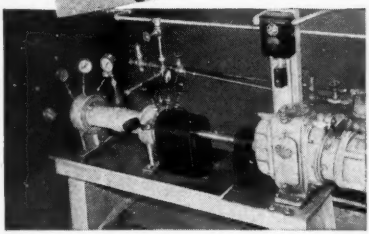

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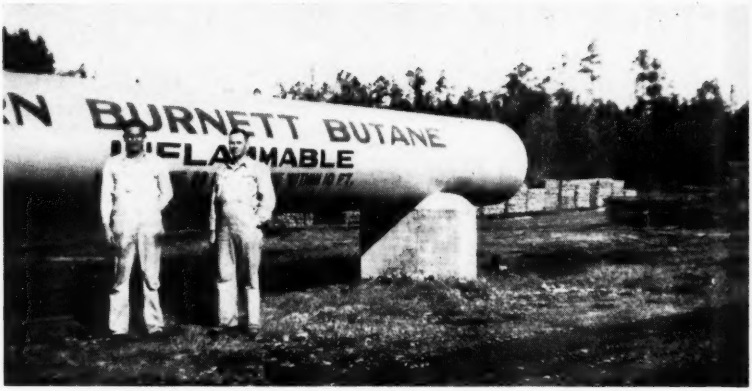


L. N. Woodall (left) and Roy Lewis, partners in Lewis Bros., standing beside their supply tank. Note lumber in background, awaiting drying operation.

Tomlinson, manager, has estimated that the firm saves $240 each month in fuel bills since he has switched to the use of butane in his cheese-making operation. McKnight Dairy Products Co. has a 6000-gal. capacity butane tank, with the LP-Gas dealer's slogan, "Burn Burnett Butane," in large letters on its side.

### Popularizes Butane Slogan

"Burn Burnett Butane" is the catchword of Mr. Burnett's advertising and promotional campaign, and at the state fair last year, six large trucks carried it on banners.

The major obstacle to the widespread installation of LP-Gas systems in that part of Arkansas was, as Mr. Burnett saw it, the high postwar cost of the fuel. To hurdle this barrier, Mr. Burnett lowered his price 25%. This willingness to accept a smaller profit has been largely instrumental in the widening of his customer area.

At present, Mr. Burnett is averaging two installations per month. He sees no reason why they should decline in the foreseeable future. "There are hundreds of potential customers here in these mountains, and every year more are financially able to demand butane service," he says.

## Virginia Firm Appoints Sales Promotion Manager

E. O. N. Williams, president of the Bottled Gas Corp. of Virginia, Richmond, Va., has announced the appointment of W. W. Wiley to the position of sales promotion manager.

Mr. Wiley was associated formerly with Tappan Stove Co.

# Georgia Tobacco Experiments Uncover Huge Potential Markets

**Experiments with the curing of Georgia's shade - grown tobaccos prove that LP-Gas is cheaper, improves quality, and reduces fire hazard. Further studies will be made this year with gas flue curing of Georgia's bright-leaf tobacco (a $49,000,000 crop last year). If this is successful and with the necessary improvement in barn construction, LP-Gas will take a huge bite of one of the nation's richest industries.**

By I. SHYKE

THE Georgia Coastal Plain Experiment Station at Tifton, Ga., is pioneering with experimentations which may have far-reaching influence in one of the nation's greatest industries. Part of the university system of Georgia and also associated with the United States Department of Agriculture, the Station has quietly been going about the task of learning a better method of heat-curing tobacco.

George H. King, director, declares that at the present time primary interest is with shade grown leaf. Whereas findings are still in the preliminary stage, enough is already known to indicate:

1 At current costs, gas is evidently a cheaper fuel.

2 The fire hazards were evidently greatly reduced.

3 The quality of the cured tobacco was apparently improved.

"Late 1949 studies on the curing of shade grown involved the use of liquid gas, propane and butane, and the preliminary discovery shows that this was a success," Mr. King said. "Our 1950 program will follow about the same course with emphasis in gas flue cured tobacco curing and the improvement of barn features and curing technique."

However, detailed objective tests on all the various fuels have not been conducted, Mr. King goes on to state. Thus far, bright leaf tobacco curing studies have involved the use of bituminous coal and oil only.

The importance of this activity to the butane-propane industries may be noted by the fact that in 1949 Georgia growers produced an estimated 121,502,000 pounds of bright leaf tobacco which sold for approximately $49,000,000.

Mr. King says that the significance of this income in the economic structure of the state cannot be overlooked in planning public services for improvements, such as with butane and propane gas, through scientific research.

**Conventional pattern of charcoal fires in curing cigar tobacco in the Georgia-Florida shade-grown tobacco belt demonstrates a type of fire hazard that could be eliminated with the use of LP-Gas.**

The influences of the Georgia experiments will, of course, have a vital bearing on possible new adoptions of gas heat curing throughout the entire South's tobacco regions.

"Of the many problems which constantly face the growers, those in curing have received least attention," Mr. King continued. "Still the potential hazards in common curing practices warrant priority consideration. Tremendous savings to tobacco growers can be affected through research aimed at the technical aspects of problems in planting, cultivating, controlling diseases and insects, harvesting, curing and grading."

Mr. King makes clear that the hazards of present curing practices are primarily two-fold. Both relate to barn design and methods of heating. Without butane-propane aid, past experiences with the aforementioned were:

1—Quality control is not sufficiently positive.

2—Potential loss of barns and tobacco by fire is a constant threat.

"From a survey, tobacco growers in Georgia in 1947 lost approximately $300,000 from fire," Mr. King said. "About three years ago, North Carolina formulated a program through legislative action to minimize fire losses which a survey had revealed to be alarmingly costly to growers."

Something had to be done. In 1947 the Georgia Coastal Plain Experiment Station at Tifton, the Agricultural Engineering Department of the University of Georgia and

**This gas burner unit is part of an installation that has replaced charcoal in the curing of shade-grown tobacco in some sections of Georgia.**

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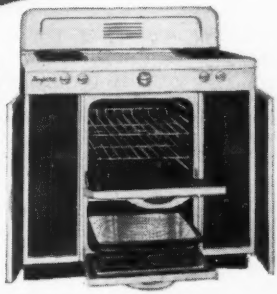

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the United States Department of Agriculture through the Oxford, North Carolina, Tobacco Experiment Station, joined forces for special initiated tobacco curing studies.

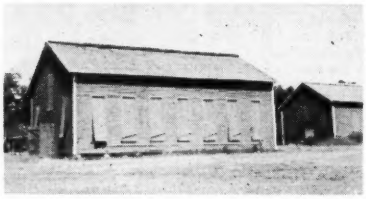
The experiments were under the supervision of agricultural engineers. At this time usage of butane-propane gas was far from being considered.

Results of the early studies showed that there was need for facilities in design to provide more positive control of curing temperatures. Also greater air distribution. This was for better tobacco control. To reduce the potential hazard of fire was immediately necessary.

Just why widespread adoption of butane-propane gas cannot be done at once is brought out in the following information from Mr. King. He says:

### Can Improve Present Practices

"The engineers are aware that present common curing practices as to theory and equipment might be considerably improved through radical changes. However, the most practical and expedient procedure is considered to be, first, improvement of the physical factors affecting curing characteristics of existing barns and equipment. Second, a gradual change to possibly new and radically different practices."



**Typical tobacco curing barns in Georgia tobacco belt. Side wall insulation and controlled ventilation are needed for an efficient gas flue installation.**

Talks with agricultural engineers closely associated with this work, supply good reason to believe that butane-propane gas will come in gradually, but unquestionably in connection with this new usage for tobacco. Engineers say that from the studies, considerable progress has been made in this direction and they are recommending certain features for curing barns which will, in addition, greatly improve their performance. Some of the improvements follow:

1—More insulation on the side walls of conventional barns will reduce fuel consumption and improve air temperature and distribution control.

2—Barn ventilation with positive control should be provided, particularly in barns of very tight construction.

It is also announced that the project at Tifton was expanded to include studies towards similar objectives in respect to the problems of shade-grown tobacco in southwest Georgia where quality control greatly needs improvement and where butane-propane gas is desired.

In 1948 losses from fire in southwest Georgia were estimated at approximately $200,000.

According to the United States Department of Agriculture, flue-

cured tobacco gets its name from the distinctive heating apparatus employed in the curing barns. "This consists of fireboxes with large iron flues to give off heat," writes Charles E. Gage, former Chief of the Tobacco Branch. "The fireboxes open on the outside of the building and extend about six feet into the building. They may be made of stone covered with sheet iron or of brick arched over. The smoke is conveyed through the iron flue extending from the firebox to the far side of the barn and back, with the exit on the same side of the building as the firebox and somewhat higher. Most of the heat is given off by the flues. Usually a barn has two fireboxes."

### Many Old Barns Remain

For many years this system prevailed throughout tobaccoland. Most barns are still of frame construction with some modern ones built of hollow tile or cement brick. Mr. Gage states that many of the older barns made of logs and chinked with mud are still in use.

Entering this almost unchanged picture since earlier days, comes butane-propane liquid gas. The high cost of not only wood and coal as fuel but also oil, which is comparatively new for this purpose, paves the way for this kind of tobacco curing heating.

Curing methods progressed in succession from air-curing to fire-curing to flue-curing with wood, coal, oil and finally butane-propane liquid gas.

Not only does the demand for flue-cured tobacco dominate the American export trade but it is heavily favored for the domestic cigarette business. Therefore, usage of liquid gas in tobacco preparation will be a great value to the butane-propane industry.

## Canadian Muncipal Buses Will Try Propane for Fuel

By W. P. KILFOIL

From Edmonton, Alberta, Canada, comes news of a plan to make the city's 40 gas buses live up to the letter of their names by operating on gas—propane gas. The vehicles are now driven by gasoline engines.

One of the buses is being modified to burn propane, derived from the natural gas deposits of Alberta. It will be given a one-year trial on Alberta streets, and if the experiment is a success, other gas buses will be modified to use propane fuel.

Economy in operation is the motive behind the propane gas try-out and the modified propane gas bus will be the third vehicle to so operate in the city. Already, the Arctic Ice Co. is using a propane-fueled truck and the Luna Gas Co., suppliers of propane, are testing a similarly-operated truck.

Conversion of the Edmonton Transit System bus consisted of installing a new carburetor and the addition of a new heat exchanger, 100-pound pressure liquid propane tank and necessary feed connections.

While it is hoped to increase the nine-miles-per-gallon mileage of the present fuel, it is also hoped the use of propane in the buses will result in longer engine life through better combustion and no oil dilution.

Engineers of the E.T.S. say if the experiment bears out its claims, a great saving in engine overhauls and replacements will be made.

# Reducing Service Problems With Properly Installed Regulators

**IN TWO PARTS**
**PART 1**

By RALPH E. MEEDER*
Selwyn-Landers Co., Los Angeles

REGULATORS have been referred to many times as the "heart" of a domestic system which is quite appropriate. But I believe that the simple explanation of a regulator and its function to one of your customers can be understood more easily if compared to the general operations of the carburetor on an automobile. Stepping on the accelerator is like the housewife turning on the burners of her kitchen stove, or when the engine of your auto is idling it is similar to keeping the pilot lights burning.

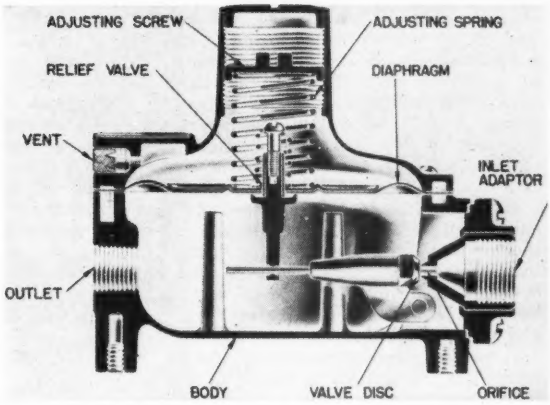
RALPH MEEDER

A typical, single stage, LP-Gas pressure regulator takes LP-Gas tank or cylinder pressure which may vary from several pounds to over 100 lbs. and reduces this container pressure to the appliance pressure requirements which are usually 6 ounces or 11 in. of water column. The volume of gas may be for several pilot lights of the appliances or all burners of all appliances at one time and the action must be automatic. The amazing fact to me is that the LP-Gas dealer can purchase a piece of equipment that will function satisfactorily for such a low cost. Probably the previous statements simplify regulator requirements too briefly but time does not permit reviewing in detail.

Leading LP-Gas regulator manufacturers have educational and service bulletins that are available upon request. A new bulletin which will be placed in your hands soon by Fisher is entitled "Essential Elements of Gas Pressure Regulators." In this bulletin you will find the essential regulator elements placed in three distinct groups.

First, there is the "measuring element." In the typical LP-Gas regulator the measuring element is the diaphragm since it controls the outlet pressure. Second, is the "loading element." This is the regulator spring and it exerts a downward force against the diaphragm. Third, there is the "restricting ele-

* Delivered at the Northwest district meeting, LPGA, Portand, Ore., Feb. 15.




**Major parts of a low pressure regulator.**

ment" which is the orifice or inlet adaptor.

The major parts of an LP-Gas regulator are the body, orifice or inlet adaptor, lever assembly, spring, diaphragm, adjusting screw, relief valve, and vent.

Let us now place a regulator in operation. After it is installed, with the shutoff valve on the LP-Gas container opened, the gas vapors are now ready for use.

When the appliances call for gas, the pressure under the diaphragm will drop slightly; the diaphragm will move downward, opening the valve orifice, allowing more gas to flow to the downstream side, always regulating and controlling the pressure equal to the spring setting.

Thus, the high pressure of the cylinder or tank is automatically reduced to the desired pressure required by the appliances. Continuous opening and closing of the orifice as long as gas is being used causes up and down movement of the diaphragm or "breathing."

When the appliances are not demanding gas, pressure under the diaphragm builds up, moving the diaphragm upward, pulling the valve lever up causing the valve disc to move toward the orifice face, thus stopping the flow of high pressure gas into the low pressure system.

Low pressure regulators normally used on your systems are required to incorporate an internal relief device to prevent excess pressure from being allowed into the low pressure system. This relief valve is set to open and vent whenever a pressure of 1 lb. or more is exerted on the under side of the diaphragm.

### Regulator Trouble

Everyone in the LP-Gas industry has had regulator trouble, but many times we are inclined to exaggerate

the situation. Often we have been told by an operator that he has had a hundred regulators go bad, because of a certain condition, but usually when you get down to an actual check, it will be found that there are only a few regulators causing trouble and usually from different causes.

We all dislike trouble of any kind, and manufacturers do everything in their power to make their products trouble free in operation. It is my belief, considering the type of service on which LP-Gas regulators work, and the conditions under which they are installed, that a reasonably small percentage of trouble is experienced. In this discussion of regulator trouble, the most common causes will be covered.

High lock-up pressure and venting or leaking through the relief valve vent are probably the most common complaints. They are caused, usually, by a worn valve disc which does not seat properly on the orifice face. Thus the regulator is not able to shut off the high pressure, and an excessive pressure builds up in the downstream or low pressure chamber, and the relief valve opens at its setting of 1 lb. and vents the excess gas to the atmosphere.

### Foreign Matter Causes Trouble

This can also be caused on a new regulator by allowing dirt or metal chips or other foreign material to pass through the inlet connection and into the inlet of the regulator where this foreign material usually lodges between the valve disc and the seat. Better than 80% of all regulators removed because of this complaint have been removed because of foreign material, such as metal chips, being lodged on the valve disc, thus causing high lock-up. The only way to correct this, of course, is to replace the valve disc.

Blowing relief valves are frequently the result of valve disc trouble such as we have just mentioned, but on the older types of regulators having a separate diaphragm relief valve, dirt could lodge between the relief valve diaphragm and the relief valve seat, and thus cause the same condition. Should that be the trouble, the relief diaphragm should be completely replaced.

### Regulator Not Always at Fault

Probably the most serious trouble with regulators is one which actually is not the fault of the regulator, but for which it gets most of the blame. We are referring now to freezing regulators. Every winter there are the usual number of freezing regulator complaints. This is caused directly and specifically by moisture in the tanks, cylinders, or in the gas. Gas which is perfectly free of moisture will not freeze in a regulator. The trouble occurs when moisture is present in the cylinder or gas, and the actual stoppage of the gas is the result of frost crystals forming in the throat of the orifice at the inlet, thus plugging the orifice and preventing any further flow of gas. Experience has shown that the larger the orifice in a regulator, the longer it will resist freezing. Therefore, the larger regulators, with their inherently larger orifices, are less likely to freeze under a given set of conditions than would a smaller regulator.

To prevent freezing regulators, care must be used that the cylinders or tanks are perfectly dry inside when put in service. If there is any doubt about a container being moisture free, it should be rinsed with water-free wood alcohol, drained and dried. All container openings should be kept closed at all times, except

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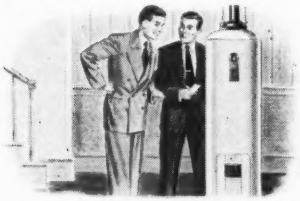

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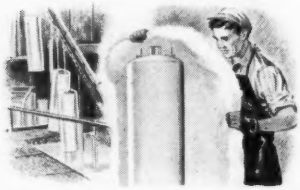

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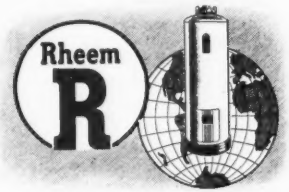


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when connected in service. Specifications for properly dehydrated fuel should be insisted upon by you with your source of gas supply.

If you have containers in service causing freezing trouble, one of the cures is to introduce wood (methyl) alcohol into the fuel, at the rate of one pint per hundred gals. This will, in most cases, absorb the free water and lower its freezing point sufficiently that it can be vaporized off through the regulator, without causing freezing condition.

You, of course, realize that temperature of gas after it has been expanded while passing through the regulator is considerably reduced, but giving several comparative figures in Table 1 may impress you with the action that develops within a regulator while vapor pressure is being reduced to a usable level.

TABLE 1.

| Temperature of Propane Gas as It LeavesTank or Cylinder | Propane Inlet Pressure | Regulator Outlet Temperature |
|---|---|---|
| 100° F | 180 lb. | 52° F |
| 40° F | 65 lb. | 18° F |
| 19° F | 33 lb. | —2° F |

There are many ways of correcting a freezing regulator, but whatever you do, do not apply a blow torch or open flame to the unit. Heat may be applied by wrapping the head or inlet of the regulator with a hot towel, or the inlet connection can be broken and a few drips of wood alcohol poured into the orifice. This will melt and absorb the frost and open the passage.

One other trouble with regulators is referred to as "erratic operation." The reduced pressure may go high or low and fluctuate in an odd manner during operation. This may be caused by internal lever or valve stem binding, but is often caused by the breather hole from the upper diaphragm chamber being painted over, or from mud wasps filling the vents or breather hole with mud. This prevents the regulator diaphragm from properly breathing and operating correctly. All vent holes over 1/8 in. in diameter must be protected with a screen. In repairing regulators, care should be used that all relief valve vents have proper screens.

Another regulator trouble is experienced due to under-capacity regulators on larger jobs and insufficient fuel storage. On larger installations, be sure there is always plenty of fuel in the storage system, that the tank pressure does not fall below an adequate inlet regulator pressure.

**To Be Continued**

## Warren Petroleum Corp. Opens Sales Office in Omaha

Warren Petroleum Corp., of Tulsa, Okla., has opened a new district sales office for its liquefied petroleum gas division at Omaha, Neb.

J. W. Schriever, Jr., formerly district sales representative working out of the Madison, Wis., district office will be in charge of the new office, located at 1113 City National Bank Bldg.

Mr. Schriever joined the Warren organization in June of 1948 and immediately was appointed resident engineer during the construction of the corporation's large LP-Gas storage terminals at Des Moines and Cedar Rapids, Iowa. He was transferred to the Madison office as assistant to District Sales Manager J. T. Bradley at the time that office was opened.

P. C. Walker, of Tulsa, will become district sales representative at Madison.

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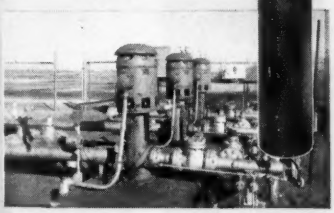

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# ASSOCIATIONS

## California State Association To Hold Annual Meeting in May

The rapidly expanding California state association, operating under the title of the "Liquid Gas Dealers Assn. of California," will hold its first annual meeting in Fresno on May 12 at the Hotel Californian. This decision was made by the board of directors and approved by the association at its last meeting in Fresno on Feb. 24, when an enthusiastic group promised President James L. Potter that they would "pack the house" with new members by that time.

The interest taken by California dealers in local problems at the Fresno meeting satisfied directors and officers of the association that the new organization will have an important part to play in the development of the liquefied petroleum gas industry in California in the years to come. Statewide problems are many and varied but the plan adopted for laying out the state in districts will enable dealers in every community to indicate their local needs at local meetings and all such needs will then be coordinated by the association officers for an overall plan for industry development in the state. The district groups will meet monthly but the main association plans to hold only one annual meeting.

In addition to Mr. Potter, of Santa Maria, other principal officers of the association are William Andrews, Long Beach, vice president, and Jack Douglas, Woodland, secretary-treasurer.

An instructive program is promised for the May meeting and at that time announcement will be made of the exact boundaries of the state districts so that dealers will know who the chairman is in each locality and when local meetings will be held.

### Florida

According to L. R. Chandler, convention committeeman, the forthcoming April 27-29 convention of the Florida Liquefied Petroleum Gas Assn. will be "the most important meeting ever held." Important industry matters are to be discussed.

The convention will be held at the Palm Beach Biltmore hotel in Palm Beach.

MANNY GALE

MURRAY GLASS

### New Jersey

More than 125 attended a meeting of the New Jersey Liquefied Petroleum Gas Assn. at Hotel Berkley-Carteret, Asbury Park, Feb. 20. They heard talks on safety and legislation

and witnessed installation of new officers.

The following are officers for the current year:

Manny Gale, of Keyport Hardware, Keyport, president; Murray Glass, of Modern Gas, Lakewood, vice president; and Guy Richdale, Jr., of Guy Richdale, Somerville, secretary-treasurer.

The following are the new directors:

Southern District, Lou Katz, of Natural Gas Co., Hammonton; and Arthur Benjamin, of Modern Gas Co., Woodbine.

Central District, Murray Glass, of Modern Gas, Lakewood; and Ben Pogue, of C. H. Roberson, Freehold.

North Central District, Al Milchanowski, of Somerset Home Gas, New Brunswick; and Harold Woodhead, of Raritan Valley Gas Co., Somerville.

Northern District, Harry Martin, of T and M Gas and Electric, Newton; and Edward Braen, of Protane Gas Service, Hawthorne.

### Good Program Attracts Crowd

This was the second time the association found that they could bring out a good crowd by staging a meeting with a good program at a first class seaside resort hotel, half way down the state, so that it is accessible for the entire state.

The program included a talk by Walter Hoagland, of Fisher Governor Co., on legislation. Lou Katz delivered a talk on selling servicemen on living up to Pamphlet 58.

A motion picture supplied by Bryant Heater dealt with competition of LP-Gas and electricity.

As added attractions, the association had as a dinner speaker "Dr." William Stanley Sims, a one-man collection of wit, philosophy, and fun-provoking common sense; Miss Sue Valentine. accordionist; and Edward Clark and his magic.

## New Mexico

A district meeting of the New Mexico LP-Gas Assn. was held Feb. 26 at Las Cruces to discuss new laws affecting the liquefied petroleum gas industry in the state. In addition to district members in attendance, the meeting was attended by Richard Martin, president, Ben Clark, secretary, and George Hannett, Jr., association lawyer.

The next meeting of the association is scheduled for April 16 at Roswell. All dealers are urged to attend as this will be an important gathering, according to Secretary Ben Clark.

## Texas

Space reservations for the Texas Butane Dealers Assn.'s 1950 trade show, to be held in Fort Worth, June 22-24, have progressed at such a speedy rate that predictions of the biggest show ever sponsored by the association are already being made.

Floor plans of the space available were mailed in February to prospective exhibitors. The next day, according to the "Texas Butane News," reservations began arriving.

Displays will be set up for the show in the Crystal ballroom of the Hotel Texas—which space has no obstructing columns or pillars. Four rows of booths will front on two aisles, according to plans, and names and booth numbers of all exhibitors will form an arch over the entrance.

## Natural Gasoline Men Meet In Forth Worth, April 24-26

The annual convention of the Natural Gasoline Assn. of America will be held again this year in Fort Worth, Texas. The dates are April 24-26 and the place is the Texas

hotel, according to William F. Lowe, executive secretary.

New officers will be elected for the ensuing year, with James E. Pew, current president, retiring.

One of the principal features of this meeting will be the presentation of the annual Hanlon Award to some individual within the industry who has made some notable contribution to the industry during past years. Last year's winner was Francis E. Rice, of Phillips Petroleum Co.

As in past years, the entertainment feature of the program will be conducted by the Natural Gasoline Supply Men's Assn., of which J. N. McClure is the current president.

## LPGA

As a part of a special membership contest, the LPGA membership committee, under the direction of Charles O. Russell, has issued a clever promotional folder already in the hands of prospective members in every state.

The brochure asks the question, "Are you suffering from H.H.?" Reading further, it tells us that "H.H." is headline hangover—caused by an abundance of electric-industry news stories during the past year.

"Electric Ranges Seen Tops in 5 Years," "75% Rural U. S. Now Electrified," "Gas and Electric Ranges Stage Close Sales Race," "REA Connects Nearly 2000 Farms Daily," "Farm Electrification Holds Record Pace"—these are some of the headlines that greeted LP-Gasmen during 1949.

The promotional piece goes on to say that the way to combat this propaganda is to become part of an organization that is united to fight it.

During the 1950 spring convention, prizes will be awarded to the five highest ranking contestants, according to points accumulated.

**IT'S CLEVELAND FOR NBPA**

**The 1950 annual convention of the National Butane-Propane Assn. will be held in Cleveland. Headquarters are at the Hollenden hotel and the date is Sept. 18-19.**

**This meeting was originally scheduled for Chicago but the location was changed at the January meeting of the directors.**

## Early Reservations Set Record For Fall Appliance Show

On Feb. 16, 100 gas appliance exhibitors had registered and booked space for the 1950 exposition of gas appliances and equipment at the show to be held in Atlantic City, Oct. 2-6, according to Harold Massey, assistant managing director of GAMA.

Mr. Massey states that this first-week registration is a new record in the history of the show, which is held every two years in conjunction with the regular convention of the American Gas Assn.

## Colorado Service School Draws from Many States

Twenty instructors and 154 students attended the second annual Rocky Mountain Empire service school which was held in Denver, Colo., Feb. 6-8 under the co-sponsorship of the national Liquefied Petroleum Gas Assn. and the Colorado LP-Gas Assn. Classes were held in the auditorium of the Central Christian church.

J. C. Crawford, executive vice president of the state association, made local arrangements for the

school, assisted by Committeemen F. N. Mabee, W. M. Baum, J. L. Thompson, and C. G. Weakland.

The school, while stressing high altitude operations, touched on all subjects vital to LP-Gasmen. Lectures and illustrated talks covered the following subjects:

Properties and characteristics of LP-Gas; coordination of regulator and piping; open forum on operating problems; fundamentals of combustion and venting; installation and servicing of ranges, water heaters, and regulators; principals of space heating; operating emergencies; customer relations; electric thermostatic controls, and pilot generated thermostatic controls.

Nine states and Canada were represented among the school's students. Colorado companies sent 110 men to the school; 15 were from New Mexico; 12 from Kansas; 8 from Nebraska; 3 from Wyoming; 2 from Utah; and 1 each from Montana, South Dakota, Mexico, and Canada.

## Instruction and Fun Planned For LPGA May Convention

Present indications point to the biggest convention and trade show in the history of the Liquefied Petroleum Gas Assn. at its annual conclave to be staged May 8-11 at the Palmer House, Chicago. Attendance is expected to exceed by a substantial margin the record of more than 1500 set at last year's event, according to W. A. Schuette, Hausgas, Inc., chairman of the arrangements committee.

The speaking program, which is rapidly rounding into shape, will include nationally prominent figures—both inside and outside the LP-Gas industry. Among these are "Sunshine" Gene Flack, sales counsel and

W. A. SCHUETTE

ART KREUTZER

director of advertising for Sunshine Biscuits, Inc.; Miss Byrne Hope Sanders, editor of Chatelaine, the Canadian women's magazine, who will discuss customer relations with special emphasis on the feminine viewpoint, and Lee A. Brand, vice president, Empire Stove Co., and newly elected chairman of the National Committee for LP-Gas Promotion.

J. Richard Verkamp, chairman of LPGA's Marketers Section, has announced that Dana Cole, professor of accounting, University of Nebraska, and Leonard Lund, Minnesota state fire marshal, will speak on that group's program. Professor Cole will point up the importance of proper record-keeping and Mr. Lund will tell his listeners what a state fire marshal expects of the LP-Gas industry. H. Leigh Whitelaw, managing director of the Gas Appliance Manufacturers Assn., is slated to speak at the session of the Appliance Manufacturers Section. Highlights of other section meetings will be announced later.

As of March 6, a total of 126 of the 138 booths were already under contract to exhibitors, according to Arthur C. Kreutzer, LPGA managing director.

The 1950 edition of the "Gas-Flame

Gaieties," to be presented at the convention banquet on May 10, will include such well known entertainers as Nancy Evans, radio, concert and recording singing star; Jay Seiler, eccentric dancer and comic, and Gene Fields, comedian and mimic, who will serve as master of ceremonies. A cocktail party on May 9 and a busy schedule of special events for the ladies are also included on the social calendar.

## LPGA Directors

Approval of 70 new applications for membership in the Liquefied Petroleum Gas Assn. by the organization's board at a meeting held March 1-2 in Tulsa, brings the total roster to 701, a new all-time high record, Si G. Darling, president, has announced. A concerted campaign to swell the ranks of LPGA has been under way since last fall under the leadership of Charles O. Russell, Rapid-Thermogas Co., chairman of the membership committee.

At the same session, the board voted to establish immediately a district office at Wichita, Kan., to serve Kansas, Oklahoma and such other states in the adjacent area as may become identified with LPGA under the recently initiated state integration plan. A district secretary will be employed in the very near future.

In the absence of Walter Hoagland, Fisher Governor Co., chairman of the special LPGA weights and measures committee, H. Emerson Thomas, Yankee Bottled Gas Corp., presented a report on the recent conferences held by that group with a committee of weights and measures officials. The LPGA men recommended a set of weights and measures rules which are to be submitted to the National Conference of Weights and Measures Officials as representing the present thinking of the LP-Gas industry.

A new model container law, drafted by the LPGA legislative committee, headed by K. W. Rugh, Phillips Petroleum Co., was approved by the board. As chairman of the National

**Members of the National Committee for LP-Gas Promotion and other industry men who attended Feb. 27 meeting in Tulsa. Seated: Lee A. Brand (center), Empire Stove Co., newly elected chairman; M. L. Trotter (right) Carolina Butane Gas Co., vice chairman; and Robert E. Borden, secretary.**

# REGO DEPENDABILITY!

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- . . . Low Pressure Regulator (two models available)
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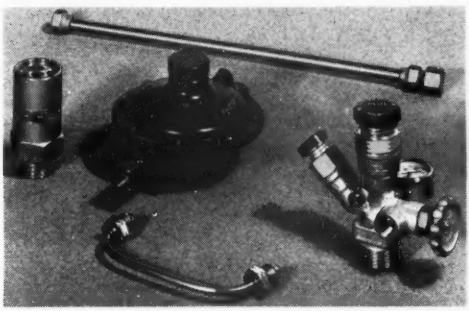

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PIONEER AND LEADER IN THE DESIGN AND MANUFACTURE OF PRECISION EQUIPMENT FOR USING AND CONTROLLING LP GASES

CHAS. O. RUSSELL

FRED RIVERS

Committee for LP-Gas Promotion, Lee A. Brand, Empire Stove Co., said that the fund-raising campaign for the industry promotional program was under way and that gratifying progress was being made in all phases of the project.

K. R. D. Wolfe, chairman of the educational committee, reported that attendance at and interest in the various LP-Gas service schools sponsored by LPGA are running high. "Based on the reaction of the industry to these service schools, it appears that we have finally hit upon the correct way to get information to the industry men who actually do the work on customers' premises," he said. The film on water heater installations, made available without charge to LPGA members, is on the road practically all of the time, Mr. Wolfe asserted.

Fred A. Rives, Automatic Gas Co., of Columbus, Ga., chairman of the LPGA advisory committee to Southern Technical Institute, said his group has been doing considerable work on text material to be used by instructors in the LPGA-sponsored course in Gas Fuel Technology. As a result of publicity given to the subject, he added, Southern "Tech" has received 110 inquiries regarding this class from various parts of the country. The first class started March 27.

Two recommendations of the publicity and advertising committee, of which M. L. Trotter, Carolina Butane Gas Co., is chairman, were approved by the board. The directors voted to continue LPGA endorsement of the Beals Advertising Co. service to LP-Gas dealers at the local level and to revise and bring up-to-date the pamphlet, "The ABC of LP-Gas," for re-publication and issuance on a self-liquidating basis.

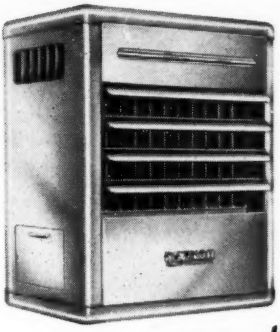
Vacancies on the board were filled with the election of O. L. Garretson, General Tank & Steel Corp., as director for New Mexico, and V. Rassvetaieff, Isabel La Catholica, as director for Mexico.

Entertainment for the directors was a buffet dinner and cocktail party at the Tulsa club given by Sinclair Oil & Gas Co., Anchor Petroleum Co., Phillips Petroleum Co., Beacon Petroleum Co., Universal Petroleum Co., Texas Natural Gasoline Corp., Athens Petroleum Corp., Cities Service Oil Co. and Warren Petroleum Corp.

## Copies Still Available Of Last Year's Safety Issue

Inquiries are still being received relative to the availability of the June, 1949, safety issue of BUTANE-PROPANE *News*.

A few copies of this complete 196-page safety edition are still to be had and dealers who were not subscribers last year or others who wish extra copies for their servicemen should send in their orders in the near future if they wish to be certain of securing copies. The price of the safety issue is $2 per copy.



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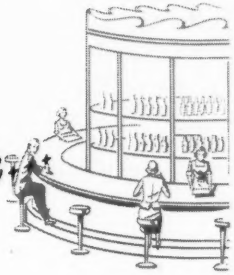

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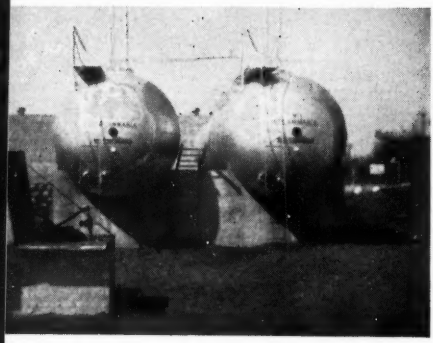
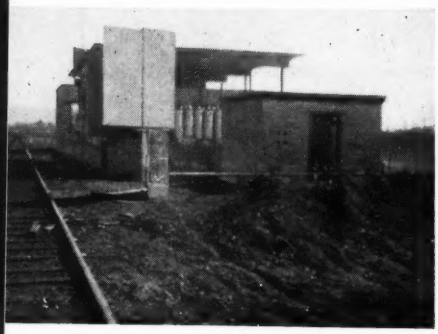
# REZNOR

## AUTOMATIC GAS-FIRED UNIT HEATER

# Tennessee Dealer Prospers In Electric Stronghold



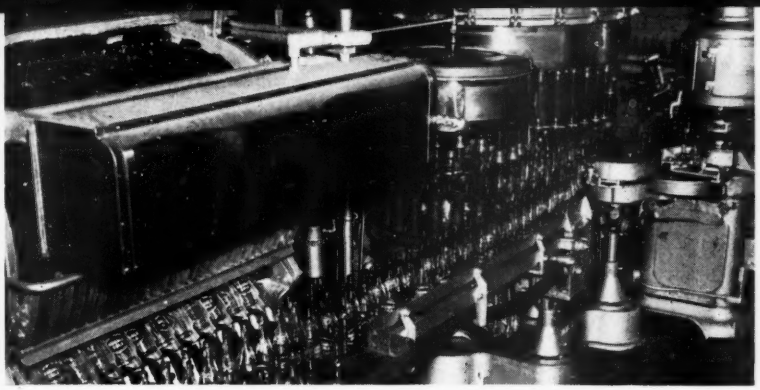


ABOVE: Act-O-Lane's two 18,000-gal. storage tanks showing the truck filling connections. BOTTOM: Railway siding showing raised cabinet in which hose lines, which connect to tank car when refilling storage tanks, are stored. At right is the pump house and behind it is the bottle filling station.

A TWO-YEAR-OLD company in Chattanooga, Tenn., The Act-O-Lane Gas Service, has already built up such an unusual assortment of propane utilization in its territory that it might well serve as an example to other young companies in search of new markets.

Among its customers Act-O-Lane has a soft drink bottling plant (see company statement); two candy companies, who find the clean, hot propane heat ideal for firing large copper cooking kettles; 25 brooders in which are raised chickens and turkeys; several manufacturing plants using propane for heat treating, normalizing, etc.; M. M. Hedges Manufacturing Co., a water heater manufacturing plant that uses LP-Gas in bake ovens that dry enameled surfaces; two customers using LP-Gas for singeing cloth in bleaching and dyeing operations; a church and a store, both of which are equipped with Humphrey gas lights; two large skating rinks, one of which has heaters of 1,600,000 Btu's input capacity, and two storage tanks of 500 gals., each connected to a vaporizer; and other propane users in scrap steel yards and laboratories, where gas is used for cutting torches and Bunsen burners.

Mere servicing of these many unusual installations would seem a full-time job, but Act-O-Lane car-



Among the customers of Act-O-Lane Gas Service is the Double-Cola Bottling Co. in Chattanooga. Above is a view of the Double-Cola bottling room with the washer visible at left. G. W. Tribble, president of the bottling plant, provides the following statement relating to how LP-Gas provides the solution to its drying problem.

"All empty bottles from the trade must be sterilized and thoroughly cleansed before the filling operation. The bottle washer requires steam supplied by a boiler or other type of heating medium.

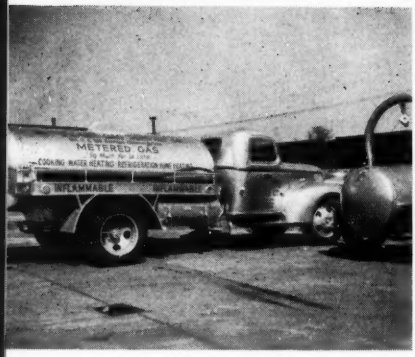
"When a boiler is used it is necessary to have a boiler room, and the required pipe for delivery of steam to the washer, and return of condensation. Such an installation is expensive and naturally has objectionable features.

"There is a heating unit known as the Evans gas heater, which occupies a floor space of less than 8 sq. ft. It recirculates the cleaning fluid through the heater to bring it to the required temperature, which is more economical than endeavoring to heat the solution by means of steam coils installed in the housing of the washer. The unit is fully automatic and does not require the attention of an operator after the controls have been set and the bottling operation begun.

"The local gas utility company was unable to service this installation. It was only natural that the Double-Cola Bottling Co. looked to the Act-O-Lane Gas Service Co. for assistance.

"The Act-O-Lane Service Co. installed a 1000-gal. tank, mounted outside of the main building. The discharge was piped to the Evans heater, installed adjacent to the bottle washer, further eliminating any heat loss between the heater and the washer.

"Our plant has been in operation for approximately four months and gas heating has been a big factor in the ease with which bottles are sterilized and cleaned with a minimum of dirty bottle rejects at the delivery end of the washer. Cost figures are not yet available because of the short time the plant has been operating but estimates indicate that due to the reduced costs in building and fuel, and the elimination of the attendant required to fire or maintain a boiler, there will be considerable savings."




Tank truck and a partial view of a trailer with tank loaded. This trailer delivers tanks to customers.

ries a complete line of gas appliances, and has heating installations in all types of residential, industrial, and commercial establishments.

The Act-O-Lane company went into business in 1947 under the presidency of G. E. Wheland. Two significant factors have played important parts in the company's growth since then: The Chattanooga Gas Co., the local utility, has been unable, because of limited manufacturing facilities, to supply the mountain areas immediately surrounding Chattanooga—and these mountain areas comprise some of the city's finest residential districts; and even though the city is in the heart of the TVA area, the electric rates for house-heating are prohibitive, although electric rates for cooking are less than gas. House heating with propane is cheaper and Act-O-Lane has capitalized upon this situation.

Officers of Act-O-Lane include Mertland M. Hedges, chairman of the board; G. E. Wheland, president and general manager; F. P. Ryan, vice president and treasurer; and Alvin O. Moore, secretary.

## U of Minnesota Will Hold Second LP-Gas Service School

The University of Minnesota department of agriculture, University Farm, St. Paul, will conduct a three-day service school April 17-19, under the direction of C. H. Christopherson, chairman of the committee on arrangements.

The school will combine comprehensive instruction by leading university and industry men with actual demonstrations and question-and-answer periods. The school will give new men a better insight into the fundamentals of LP-Gas appliances and equipment, and serve as a refresher course for older employes. The course is designed to bring everyone up-to-date on the latest technical, service, and commercial developments, thus contributing to a more efficient and profitable operation.

The registration fee of $12 will entitle each student to a copy of the lectures and proceedings which will be bound and mailed to each student.

Cooperating in conducting the school are the Liquefied Petroleum Gas Assn., National Butane-Propane Assn., and the Minnesota Petroleum Gas Assn.

Dormitory accommodations at $2 per night will be available. However, reservations must be made in advance. Meals can be had at the University Farm cafeteria.

All inquiries should be directed to the Short Course Office, University Farm, St. Paul 1, Minn.

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**B. 300 LB.**
**C. 150 LB.**
**D. 200 LB.**
**E. 100 LB.**

**Write or wire for more complete information. Delta engineers and production men will be glad to work on your individual needs.**

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MANUFACTURERS OF LPG PRESSURE TANKS AND I C C CYLINDERS

# The Industry Will Be Judged By Its Installation and Servicing of Consumer Systems

By D. W. FLETCHER

Special Representative, National Tube Co.,
Pittsburgh, Pa.

**IN TWO PARTS**
**PART 1**

WE installation and servicemen are the most important factors in the LP-Gas industry. Upon us and our work a whole industry is dependent. The customers whom you serve will determine collectively and individually whether we are serving them properly and well. If for any reason whatsoever they decide that we have not provided and are not providing satisfactory service, or that we have not dealt fairly with them, or that we have not provided good service and a satisfactory installation, then they may seek other types of fuels. So, upon us, the people who actually contact and serve the customer, every individual and business in the LP-Gas industry depends.

D. W. FLETCHER

LP-Gas, as you know, has come into its present wide use because it has the same good qualities as natural or manufactured gas. No other method of cooking or heating can give the user greater flexibility or more genuine satisfaction. We can, by demonstration and the good word of completely satisfied customers, make continued progress in this LP-Gas industry.

LP-Gas systems should be installed and used in accordance with Standards of the National Board of Fire Underwriters for Liquefied Petroleum Gases, NBFU Pam-

**OUR INDUSTRY needs to review frequently its fundamental practices—both for the "freshening up" of experienced men and for basic information that newcomers must have.**

**The service schools sponsored by the LPGA develop many excellent sources of such material. The accompanying paper is one of these. It was delivered at the second school conducted at Pittsburgh and was delivered by D. W. Fletcher of National Tube Co., a subsidiary of the United States Steel Corp.—Editor.**

# IF YOU COULD SEE INTO THE FUTURE

The savings on Sprague Zephyr Meter installations in LP-Gas systems would be more apparent. Weather resistant metals and precision machining insure accurate, long service in the measurement of petroleum gases. Strict adherence to standardization of parts and construction simplicity result in future low cost maintenance.

LP-GAS

SPRAGUE *Zephyr* METERS

THE SPRAGUE METER COMPANY
BRIDGEPORT 4, CONNECTICUT

phlet No. 58, as recommended by the National Fire Protection Association and state and local LP-Gas regulations.

There are certain properties of LP-Gas which should be understood before handling and using this fuel. Since propane is the prevailing fuel in this area, we will confine our discussion to this fuel.

**Characteristics of Propane**

When under pressure, propane is a liquid having the following characteristics: .51 specific gravity, which means in relation to water, it has 51% of water weight or approximately half the weight of water.

The vapor pressure of propane is 92 psi at 60°F and reaches 172 psi at 100°F. It is stored safely only in pressure vessels built according to regulations and equipped with the required safety devices.

The liquid expands in the storage tank when atmospheric temperature rises. Storage tanks must never be completely filled with liquid. For example, regulations require a filling density of 42% maximum for propane of .510 specific gravity in an aboveground tank. Filling density is the ratio of the weight of gas in a container to the weight of water the tank will hold at 60°F. In other words, for the example cited approximately 18% of the tank volume is reserved for expansion of liquid when the temperature rises.

Rapid removal of vapor from the tank will lower the liquid temperature and will reduce the tank pressure; however, rapid removal of liquid will not reduce the tank pressure. Liquid temperature is governed by heat transfer from the outside temperature. This heat transfer is relatively slow and therefore tank temperatures rarely approach maximum atmospheric temperatures and are usually lower by 10°F or more.

Boiling point or point below which liquid fails to vaporize is minus 44°F.

The gas or vapor is heavier than air.

When in a gaseous form, the specific gravity is 1.52 in relation to air (which is 1); it is 50% heavier than air and will settle toward the floor.

Ventilation requirements consequently differ from those of natural gas.

The vapor or gas diffuses very slowly into the atmosphere unless the wind velocity is high.

LP-Gas is not poisonous. Breathing of small concentrations for short periods will produce no noticeable effect on the human being. The general effect of breathing high concentrations is similar to that produced by ethyl alcohol intoxication.

The records show that LP-Gas is handled safely year in and year out when its properties are understood and proper precautions are observed in its handling and in the design, construction, and installation of the various appliances and equipment necessary to its use.

In selecting the equipment to make a satisfactory LP-Gas installation, some of the more important

factors to be considered are as follows:

**System Selection**

The first point in selecting a tank for use is its quality of construction and flexibility in servicing.

1. The NBFU Pamphlet No. 58 sets up requirements for quality of tank construction by stating that this requirement is set forth in the ASME Code for Unfired Pressure Vessels covering materials and construction.

2. Pamphlet No. 58 requires that all fittings be listed by the Underwriters' Laboratories which is sponsored by NBFU. Each tank is inspected by a disinterested party employed by an insurance company and is given their stamp of approval when completed. The Hartford Steam Boiler Insurance Co. is our inspection agency. The tank is then given a serial number for identification. In addition, National Tube Co. lists their tank with the National Board of Boiler & Pressure Vessel Inspection for your protection of quality. A manufacturer's data sheet is then made up showing all pertinent data pertaining to its manufacture, including date of manufacture.

It is well to remember that a tank manufactured for use with propane, which is the prevailing fuel in this area, will be safe with any mixture of butane and propane since propane develops the highest vapor pressure at any given temperature.

In addition to the above requirements, some system manufacturers (of which National Tube Co. is one) have had their systems listed by the Underwriters' Laboratories and use the UL label on name plate to assure you as dealers that they meet all the requirements for a safe and satisfactory system.

**System Flexibility**

1. Systems are usually supplied for vapor withdrawal but, when so equipped, can be converted in the field for liquid withdrawal by means of a selector valve. This has been necessary on some installations where extremely low temperatures are encountered. In such cases a vaporizer is used.

2. Magnetic gauge and fixed liquid level gauge. In case of failure of the magnetic gauge, the fixed liquid level gauge assures correct filling.

3. Evacuation: (a) Dip tube extending from fill valve to bottom of tank permits emergency evacuation. It may be necessary to remove the liquid from a vessel. In the event this is necessary, an adaptor similar to the Bastian-Blessing Evacuation Adaptor No. 3118, or Weatherhead Unloading Adaptor No. 302 may be installed between the tank truck liquid hose and the liquid filler valve on the system tank. This procedure is for emergency use only and should not be employed for the filling of other fuel tanks.

(b) A central storage tank used for fueling other equipment should have a bottom outlet with shutoff valve and excess flow valves.

**Container Size**

1. The temperature required for vaporizing is supplied by the heat absorbed from the tank surface in

contact with the liquid. Very little heat is transferred to the vapor space above the liquid. The rate of heat transfer from metal surface of tank to liquid has been established under unfavorable conditions at 2 Btu's per hour per square foot of tank surface in contact with liquid per °F temperature differential. The following example will illustrate how to select a satisfactory tank size.

2. Assume an installation requires 216,000 Btu's per hour as determined from appliance ratings.

### Vaporizing Temperatures Vary

This corresponds to a fuel consumption of 10 pounds per hour. The heat required to vaporize one pound of propane at temperatures normally encountered in the tank varies from 150 to 170 Btu's per pound. Under average conditions, the liquid would have to absorb 10 x 160, or 1600 Btu's per hour from the tank surface.

A relatively small tank for such a demand would be a 300 gallon tank having a surface area of about 60 square feet. If the tank is over half full and say 40 square feet is in contact with liquid, we have a heat transfer capacity of $2 \times 40 = 80$ Btu's per hour for each degree of temperature differential. For the required 1600 Btu's per hour, the temperature differential would then be $1600 \div 80 = 20°F$, which is probably satisfactory for most conditions.

But suppose the tank is getting a little below ¼ full and only 10 square feet of surface is in contact with liquid. Temperature differential would then be $1600 \div (10 \times 2) = 80°F$. This would be a very unsatisfactory condition. At 50°F atmospheric temperature, the tank liquid temperature would be $50° - 80° = -30°F$ with a vapor pressure of 5 psi and undesirable regulator performance. Regulators function best with inlet pressures of 10 psi and above. Vapor pressure of propane is 10 psi at −20°F and we should endeavor to keep the tank temperature from going below this point.

A 1000 gallon tank has a surface area of about 150 square feet. With this tank, when the supply of liquid is dropping toward the ¼ full level, we still have about 40 square feet of tank surface in contact with liquid and unfavorable conditions are not likely to develop.

Sometimes the regulator may be blamed for insufficient gas when the fault really lies in the size of the tank and its gas generating capacity. We are all familiar with the arguments in favor of large tanks for economic storage. Perhaps not so well understood is tank size in relation to gas generating capacity.

### Regulator Capacity

A regulator must deliver ample volume to meet the load demand at a sufficiently uniform pressure to enable proper functioning of appliances, despite a wide range of inlet pressures. It is poor economy to select a regulator of insufficient capacity. The difference in cost between a regulator of questionable capacity and the next larger size is minor. For unusually heavy loads, regulators may be manifold-

**Table 1. Pipe Diameters in Inches and Length of LP-Gas Supply Line.**

| Btu/Hour | 10′ | 20′ | 30′ | 40′ | 50′ | 75′ | 100′ |
|---|---|---|---|---|---|---|---|
| 10,000 | ¼ | 5/16 | ⅜ | ⅜ | ⅜ | ½ | ½ |
| 20,000 | 5/16 | ⅜ | ⅜ | ½ | ½ | ½ | ½ |
| 40,000 | ½ | ½ | ⅝ | ⅝ | ⅝ | ⅝ | ⅝ |
| 60,000 | ½ | ⅝ | ⅝ | ⅝ | ⅝ | ¾ | ¾ |
| 80,000 | ½ | ⅝ | ⅝ | ⅝ | ¾ | ¾ | ¾ |
| 100,000 | ⅝ | ⅝ | ¾ | ¾ | ¾ | ¾ | ⅞ |
| 150,000 | ⅝ | ¾ | ¾ | ⅞ | ⅞ | ⅞ | 1 |
| 200,000 | ¾ | ¾ | ⅞ | ⅞ | ⅞ | 1 | 1 |

ed together to obtain satisfactory results. For heavy loads, long supply lines, or severe climatic conditions, two-stage regulation may be employed. If proper selection of system size has been made, the manufacturer will have the proper regulator mounted on the system.

**Size of Supply Line**

In the distribution of gas, there is some loss of capacity in the piping system. This is particularly true of LP-Gas due to its high specific gravity. Generally, the minimum size of piping should equal that existing on the manifold of the appliance. However, for large size installations or long runs of piping, pipe flow tables should be consulted in order to determine the correct pipe size. (See Table 1.)

•

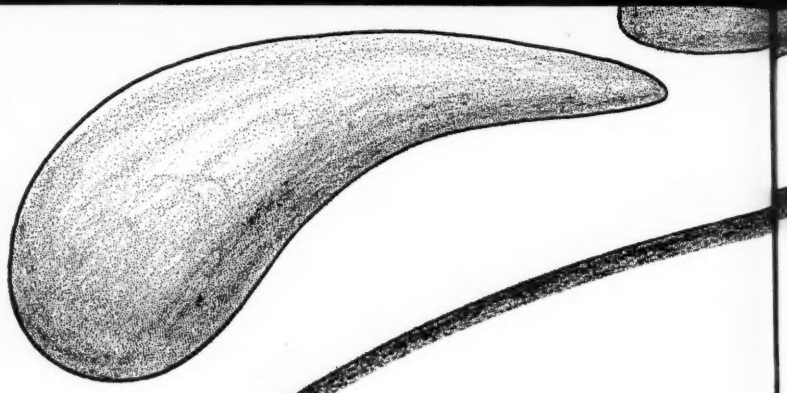
*To be continued.*

## Denver Man Is Tops In Water Heater Sales

Winners of the 1949 automatic gas water heater contest have been announced by GAMA. The grand national winner among dealer salesmen throughout the country is D. A. Bell, of Denver, Colo., who won a Buick super sedan and two $1000 savings bonds.

Mr. Bell, president of the Colorado Master Plumber's Assn. and Bell Plumbing & Heating Co., won the Buick for leading the nation's dealer salesmen in sales of top-quality, gold tag heaters; one bond for the greatest number of automatic gas water heaters in his region; and one for his overall effort in selling the largest number of all types and sizes of water heaters in his region.

Winner of the companion contest for utility gas company salesmen was Michael N. Barbour, Michigan Consolidated Gas Co., Detroit. His prizes consisted of a Buick sedan for leading all divisions in the sale of top-quality gas water heaters and a $1000 savings bond for being top man in his group for sales of all types and sizes of water heaters.



# Hard Starting Made Easy

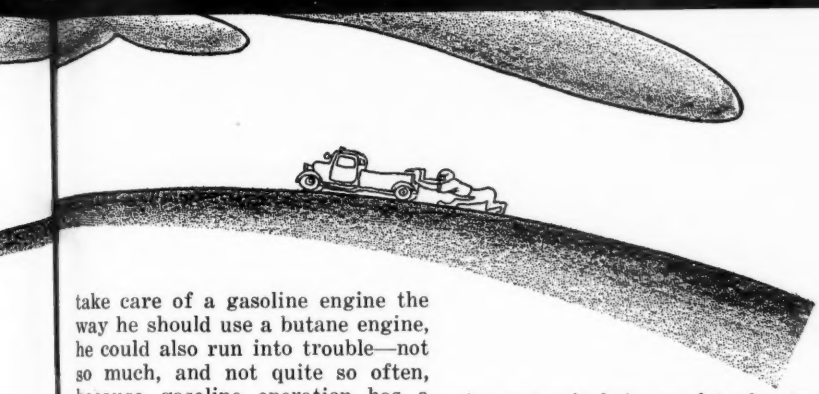
By CARL ABELL

ASK a dozen experienced LP-Gas carburetor servicemen how to overcome hard starting, and you are likely to get a dozen different expressions to describe the same procedure. Any way they say it, if you press them for details their answers will always add up to this:

"If the engine is in good mechanical condition, and you produce a combustible mixture, a normal cranking speed, and a hot spark, the engine starts."

Obviously, if the engine is in such bad shape that it hasn't any compression, you do not want to start it. You fix it.

Most hard starting complaints arise because the operator does not understand the difference between gasoline operation and butane operation, and he unconsciously or unthinkingly handles the engine as if it were running on gasoline. Sometimes it works, but at other times he is working just outside the limits that make starting possible on the less familiar fuel. If the same operator should attempt to handle and



take care of a gasoline engine the way he should use a butane engine, he could also run into trouble—not so much, and not quite so often, because gasoline operation has a little wider latitude in certain variables.

A step - by - step comparison of these differences should make it possible for operators to set up the correct procedure and overcome most of their starting problems. After that there are a few tricks which will make things easier under certain unusual conditions which make starting difficult.

With either gasoline or LP-Gas, the mixture of air and *vaporized* fuel must be within the combustible range. A mixture that is too lean will not ignite at all. With either fuel, too rich a mixture will put out a fire.

To make a cold start with gasoline, you must put a great deal of fuel into the manifold. You do it with the choke, which may be operated either automatically or by hand. The choke closes the carburetor air inlet, which increases the vacuum in the manifold. This suction not only brings a lot of extra liquid fuel into the manifold—it also sucks enough vapor out of the liquid to make a combustible mixture, in which the ratio of air to vaporized fuel must be somewhere between about 9.5:1 and 16:1.

The liquid fuel remaining in the manifold does not count. Fuel in the liquid state will not burn. It must be vaporized and mixed with air to do any good. It takes a little time and quite a lot of fire to get the gasoline manifold hot enough to vaporize all the liquid fuel so the engine no longer needs to be choked.

In starting the LP-Gas engine we do something to get a combustible mixture, which we carelessly call "choking" because it is done at the same time as we would choke a gasoline engine. In some LP-Gas carburetion systems it is even done with the same equipment, but it is not actually choking in the sense that we pull in too much fuel so there will be enough to burn. To explain this, let's begin in the period before we try to start the LP-Gas engine, and see what has happened in the fuel system.

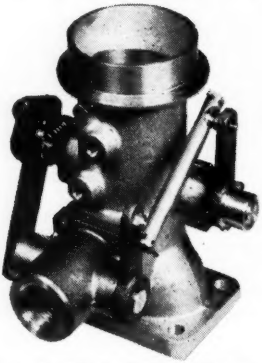
The fuel in the tube between the

Only

CENTURY

Has the

Power Control Tube



Century's 3C Dual Throat Carburetor incorporates the NEW POWER CONTROL TUBE. This exclusive feature makes possible correct power mixture on Dual Throat LP-Gas Carburetors with a single power adjustment. It balances diaphragm to lean or rich mixture quickly and easily with the one adjustment. Perfect distribution to all cylinders is assured—with no deflection of fuel to one side of manifold.

Have You Investigated Century 3C Carburetors? . . . You Should!

**Century Gas Equipment Co.**

Lynwood, California


regulator and the carburetor was in the vapor state when the engine was turned off. Unless the tube cooled off to below 32° F. (the approximate boiling point of pure butane), all of the fuel remained as vapor. Butane gas is just twice as heavy as air. Propane gas is 1.52 times as heavy as air. In a properly installed LP-Gas carburetion system the gas tube slopes down from the regulator to the carburetor, so any compressor oil which might be in solution in the liquefied fuel will pass on into the engine, instead of draining back to the regulator and putting it out of business.

### Pulls Hard on Battery

The fuel vapor, which is heavier than air, flows out of the sloping tube into the carburetor, and then seeps around the edges of the throttle blade and down into the intake manifold. As the fuel vapor flows out, the tube fills with air. When you go to start the engine, the first turn of the crankshaft empties the manifold, and the fuel is pushed out into the exhaust, generally before any of the seepage-charge has had a chance to ignite.

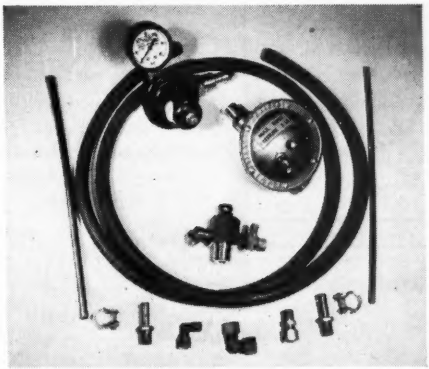
It takes quite a bit of time to draw the air out of the fuel tube and replace it with gas, but when this is done the engine will start, if the battery holds up that long. Batteries get tired from overwork.

Your carburetor manufacturer provides some means of refilling that fuel tube quickly. Sometimes he depends on the old gasoline choke and the vacuum in the manifold. In many cases there is a solenoid control which enables you to

## For Farm Tractors and Stationary Engines up to 50 H.P.

# The ALGAS Vapor Carburetion Kit

*Featuring Positive Lock-Off*



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**AMERICAN LIQUID GAS CORPORATION**

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# If You Have A Customer . . .

. . . that owns a FORD tractor tell him about the New DIX.

●

For Simplicity or Ease of Operation there is no LP-Gas Carburetor superior to DIX. It attaches to regular gasoline carburetor bowl. There are no expensive or complicated changes necessary.

*Export: 301 Clay, San Francisco*

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3447 E. Pico Blvd., Los Angeles 23, Calif.



**FOR BETTER CONVERSIONS (TO L-P GAS)**

Make every conversion a better installation by using an Ellis Manifold designed especially for LP-Gas. Your customers will find they get more power and mileage . . . and you will get more customers.

*Ellis "Bu-Power" Manifolds have been tested and proven by hundreds of successful installations.*

**ELLIS MANIFOLD CO.**

1708 S. Soto St., Los Angeles 23, Calif.


open the lock-off valve at the regulator, and bring out a quick shot of fuel vapor to fill the tube. That is all that is required. When that tube is full of gas, any more is too much. The only reason to choke any engine is to get a combustible mixture of fuel and air.

If you keep the lock-off valve open, or the choke closed, you produce a mixture that is too rich to burn, and you have exactly the same effect as flooding a gasoline carburetor. It takes time to clear this over-rich mixture out, and grinding the starter runs the battery down so there is less chance of getting a spark in the cylinder after you finally get down to a mixture that is lean enough to burn.

### Hot Spark Is Essential

The next essential is enough heat in the spark to ignite the mixture. Trouble often arises in this respect from causes which are less easy to determine without an understanding of several related factors.

The spark temperature required to ignite LP-Gas is somewhat higher than is necessary to ignite gasoline. Nobody seems to know why, but there is a marked difference. Depending on the proportions of butane, isobutane, and propane in the liquid fuel, this difference seems to range 100 to 200 degrees higher.

With the starting and ignition systems in good condition throughout, a normal charge in the battery, and lubricating oil that has not become too heavy, the standard ignition setup for gasoline is generally adequate for LP-Gas. The system

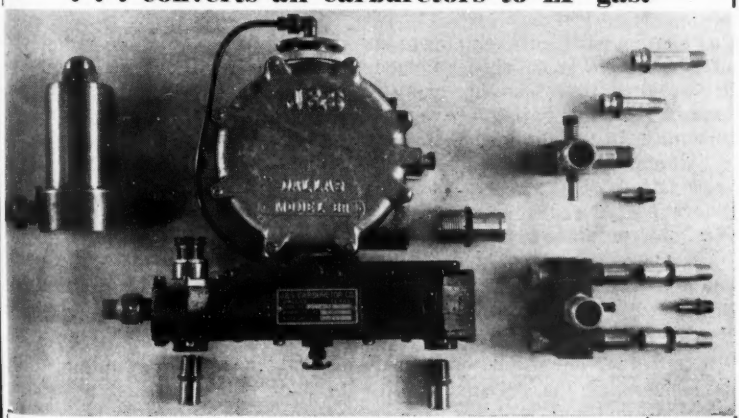
has a comfortable factor of safety for gasoline, but because of the higher spark temperature requirement with LP-Gas, the margin is less after conversion. The butane operator must watch the condition of his electrical system a little more carefully to keep things running.

Let's consider the above factors in their relation to each other, which is the only way they make sense. We should begin with the battery. Manufacturers have not been famous for putting oversize batteries in new equipment. The purchaser of the vehicle generally starts to wipe out any factor of safety that has been provided by adding electrical equipment—lights, horns, radios, windshield wipers, etc. If you must put on all those extra consumers of electricity, you should do the job right and put in a bigger battery.

Things happen due to age, use, and neglect, which interfere with the proper recharging of the battery. Regulator points wear, generator brushes arc, cables and terminals become loose and corroded. In time the commutator and brushes in the starting motor begin to go haywire. The cranking resistance within the engine becomes greater in the butane engine, due to something that the average operator would scarcely expect. The crankcase oil becomes thicker with use, instead of thinner, as is the case in most gasoline engines.

The net result of all these changes is that instead of being able to spin


**The J. & S. Vaporizer and Regulator Unit . . . converts all carburetors to LP gas!**



**WRITE FOR COMPLETE INFORMATION**

2634 N. Beckley **J. & S. Carburetor Company** Dallas, Texas

To Prevent Hard Starting
1. Don't overchoke.
2. Provide plenty of battery current.
3. Keep ignition system in top condition.
4. Keep starting motor in good condition.
5. Keep crankcase oil from becoming too thick

the engine with ease and have a surplus of power to shoot a good hot spark across the plug points, so much of the battery power is consumed in grinding the starter at half speed that there isn't enough juice left to start fires in the cylinders.

At this point someone almost always comes along and says, "What you need is a Whoozis Super Dooper coil."

That might help a little, for just a little while. Then it becomes just as helpless as the original equipment coil which it replaces. It just can't make something out of nothing. What you really need to do is to fix up what is wrong—get your electrical system in tip-top shape, see that your lube oil keeps properly thinned out, and then put on the heavy duty coil if the engine still seems to need it.

Which leads to the matter of spark plugs and sparks. Many people seem to think that when the breaker points separate, the immediate and instantaneous result is a spark across the spark plug points. Electrically speaking, "it ain't necessarily so!" The opening of the breaker points sets off a sequence of events, beginning in the coil and ending at the spark plug. The air-fuel mixture in the spark plug gap

offers electrical resistance. Voltage has to build up in the coil before there is power enough behind the current to force it across the gap. The electric potential building up on the points causes ionization (rearrangement of the molecules in the gap into a conductive path). When the voltage becomes high enough to overcome the resistance still in the gap, the current jumps across, making the familiar spark.

If there is a good surplus of battery current left over after turning the starting motor, this whole process is fast, and the spark is hot and effective. When the starter consumes most of the available current dragging the flywheel along a low speed, the voltage does not build up at normal speed, and the spark is delayed until ionization is more nearly complete, before the current can jump the gap. If there *is* still enough "oomph" in the circuit to produce a spark, it is weak and its temperature is low.

**Increased Resistance, Hotter Spark**

We may state this as a principle —the heat of the spark is in proportion to the resistance which it overcomes. We can increase that resistance, and make the spark hotter, by making the spark plug gaps .005" wider, and we can operate these wider gaps by keeping the whole electrical system in top operating condition. The extra voltage required to produce these hotter sparks may cut down the life of the regular stock coil, and this is where the Super Dooper coil comes in. It lasts longer under harder service conditions, but to get the benefit from it you must keep the electrical system in very good condition. It is no substitute for good maintenance practices.

Wide spark plug gaps increase the tendency to short out across the external portion of the insulators in dirty and damp operation. This can be prevented by cleaning the plugs thoroughly and then coating them with one of the several excellent preparations which are available for this purpose. Pib, Ignitionite, and similar products are good. Any of the heavier Silocone greases will do the job. When using the latter, just "rub it on and rub it off," then wipe the porcelains occasionally with a rag.

**Reduce Condensation**

Occasionally an engine will give starting trouble from the condensation of excessive moisture in the combustion chambers and on the spark plug insulators inside the chambers when the engine cools off. The moisture shorts the plugs out, and no spark can occur. This is as likely to happen with one fuel as with another. It can be minimized by the following procedure when stopping the engine: "Gun" the throttle to bring the engine up to a good speed; cut the ignition, closing the throttle immediately so the engine will come to a stop with the least possible amount of air in the cylinders.

With tractors having exhaust stacks straight up from the exhaust manifold, it is also a good idea to cover the top of the stack with an empty can if the tractor is to stand out overnight in a heavy dew, or at any time in a rain. Some of the valves will be standing open, and

you would be surprised how wet those cylinders will be.

Now for this matter of starting drag within the engine. You are accustomed to seeing engine oil thin out in the crankcase. If you put SAE 30 oil in a gasoline engine in average service, it is soon reduced to the consistency of SAE 20, or in some cases even thinner. In the LP-Gas engine, if you put SAE 30 oil in the crankcase, before very long it is as thick as SAE 40.

### Why the Oil Thickens

The reason? Any oil exposed to heat for a long time will thicken. That is the normal way for all oils to behave. In most gasoline engines, dilution with unburned fuel takes place faster than the thickening action, hence the oil thins out. In the LP-Gas engine, dilution with unburned fuel is impossible. This is the reason why butane carburetor manufacturers recommend that when draining the crankcase, it should be filled with the desired SAE grade, but that all make-up oil should be the next grade lighter, to offset the increase in viscosity that comes from use.

In addition to these standard precautions to make starting easy, there are a number of auxiliary measures which help in an emergency. Pushing the vehicle is good when the battery cannot turn the starter and fire the plugs at the same time. All coils are built with resistor units in the primary circuit so the coil will not burn up in case you leave a dead engine with the switch on. In some cases you can put a shunt line equipped with a switch around this resistor, and thereby get a little more voltage through the coil.

In some large butane-burning fleets they have their ignition wired up so a second coil, operated by a separate battery, may be connected in parallel into the existing circuit, so the regular battery cranks the engine while the second battery concentrates all its energy on building up good hot sparks. This gets results, and quick. But, of course, there isn't anything else as convenient as having the old boat in condition to take off right away when you step on the starter in the accustomed manner.

### A Final Tip

The butane carburetor service boys all tell us that this is purely a matter of following the right maintenance practices. And please see that your engine has good compression before you put in a call for a service engineer to demonstrate the above. He does not want to wait around for three or four days while you fix the engine up so he can do you some good.

# Factory-Built Engines Help Conversion Dealers to Meet Tractor Demands

By O. D. HALL

AN epidemic of conversions to LP-Gas on all types of farm tractors in Oklahoma, following an unusually open winter, is attracting the attention of many farm implement dealers who heretofore were apparently indifferent to the great possibilities such operations have for increasing their sales.

Increased sales of farm tractors, factory - built for use on liquefied petroleum gas, also are attracting special attention of implement men who are adding this line to their dealerships.

B. M. O'Rourke, of Enid, Okla., sales representative in northern Oklahoma of the Minneapolis-Moline Co., Minneapolis, Minn., was in Oklahoma City recently attending an LP - Gas carburetion school. He stated that some of his dealers are unabe to keep up with the demand for factory-built Minneapolis-Moline U-type farm tractors engineered for LP-Gas with Ensign carburetion.

One of these dealers, Tobe Boehs, of Fairview, Okla., who also attended this meeting, said he has

**TOP: "Less repairs and never a sputter on butane," says this owner, J. W. Heinrichs, Fairview, Okla., farmer. CENTER: Henry Eck, Fairview, one of Tobe Boehs Implement Co. Minneapolis-Moline LP-Gas tractor owners. BOTTOM: Ernest Voth, Orienta, Okla., standing beside his factory-built LP-Gas tractor.**

sold and serviced LP-Gas equipment for three years. In that time he has sold 12 tractors, factory-built for LP-Gas—11 of them in the past two years.

"This has created such a demand that 90% of our customers would like tractors so equipped," said Mr. Boehs. "We haven't kept any records as to their operation, nor their fuel costs as compared to gasoline or diesel, and oil consumption. In matters of repairs or service, however, we found that it has been necessary to service only spark plugs and fuel filters."

**Enthusiastic Owners**

Some of Mr. Boehs' customers who have bought farm tractors from him have reported fewer oil changes, less repairs, and from 10% to one-third more power on LP-Gas.

One of them, Henry R. Eck, of Fairview, found the biggest power gain, and, "To top it all, my butane tractor uses less fuel and the price I pay for butane is 7 cents per gal. compared to 17½ cents per gal. for gasoline."

Ernest Voth of Orienta, Okla., made similar reports to Mr. Boehs and added: "I have operated my tractor on LP-Gas for three seasons and haven't yet had any repair expense."

LP-Gas manufacturers and dealers thus far interviewed do not see any threat to LP-Gas dealers' shop or conversion business because of the factory-built tractors. One of them predicted that it would be at least 10 years before a sufficient number of tractor manufacturers would get into production on LP-Gas equipment to make such machines a threat to the conversion end of the dealer's business. By then, they anticipate, the regular repairs and service business in connection with the factory production would create plenty of service business for everybody and there still would remain a wide field for conversions from other fuels to LP-Gas. The number of tractors using LP-Gas by that time would be so great that the dealer will no longer have to worry about a winter and summer load balance.

In the meantime, many LP-Gas dealers are cultivating the cooperation of implement dealers, who formerly showed no interest in this fuel, by channeling some of their conversion work to the shops of these general dealers. LP-Gas dealers who do not have service shops of their own thus can create greater sales for their fuel by encouraging the placing of more farm tractors in the field, converted or factory-built, for use with butane and propane.

There are many types of LP-Gas carburetion equipment now available and parts for most of these are no longer scarce items.

As an example, one representative of a nationally known type of carburetion equipment—the Binkley Co., of Oklahoma City, handling Ensign carburetion — pointed out recently that he has on hand a $20,000 stock of carburetion equipment and parts in his Oklahoma City office, alone.

•

Under the stimulus of warm, sunshiny weather, an enthusiastic

# Try and name one we *don't* have!

Gone are those harried times when it was necessary to round up your gas heating equipment from many sources. Today, there's a man nearby who practically dares you to name a single LP-gas unit he *cannot* supply.

You'll get quick quotations from the Bryant distributor on anything from conversion burners to year-round conditioners. He has boilers, warm-air furnaces, space and unit heaters, as well as automatic water heaters, in the greatest line of LP-gas heating equipment under a single nameplate.

Authorized dealers share in his fair-and-square, co-operative advertising plan, get better deliveries because of Bryant's enlarged production facilities, find willing assistance on engineering problems. And Bryant dealers win *more* of the *better* customers.

Someone will be cashing in on Bryant products in your neighborhood this year. It could be *you!*

Let the pup be furnace man . . . and water boy, too!

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AUTOMATIC HEATING

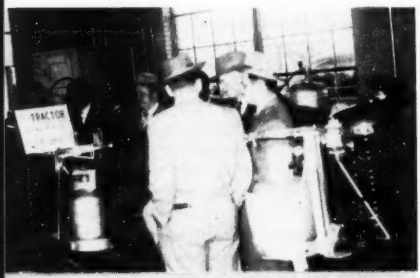
**BRYANT HEATER, Dept. 202, 17825 St. Clair Ave., Cleveland, O.**
**The most complete line of gas heating equipment in the nation**

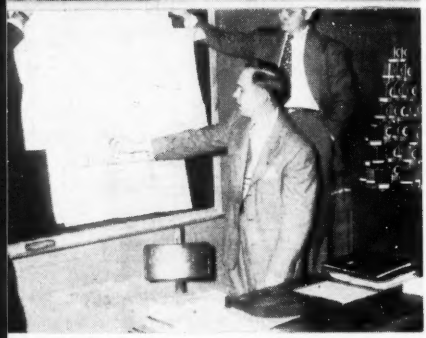
group of more than 100 LP-Gas dealers and equipment men held an all-day carburetion school in the spacious shop of the American Butane & Propane Gas Co. at Oklahoma City, Okla., Feb. 6. The meeting was sponsored by Phillips Petroleum Co., Bartlesville, and J. L. Grigsby, president, American Butane & Propane Gas.

Lined up in the center of the shop were nearly a score of farm tractors, placed on display by farm implement dealers of Oklahoma City and elsewhere in the state. All tractors had been converted to the vapor method.

Later in the day a Ford farm tractor was brought into the shop and converted from gasoline to LP-Gas use by two men in 45 minutes, while dealers watched. The conversion was made by installation of J & S propane conversion equipment using a "BR" regulator for use on a gasoline carburetor. Mr. Grigsby, who handles this equipment in the Oklahoma City territory, stood by to explain its operation and how LP-Gas dealers may increase the sale of this and other forms of conversion to LP-Gas by cooperation with farm tractor dealers.

The meeting was the third of a series of similar schools and dem-





**TOP: One of several groups watching conversions and inspecting tractors and LP-Gas equipment being demonstrated in shops of American Butane & Propane Gas Co., Oklahoma City. CENTER: J. L. Grigsby, sponsoring dealer, introducing some of the guests and making program announcements. To his right and in background are some of the displays. BOTTOM: More than 100 dealers and guests watched while Phillips Petroleum Co. sales department executives explained charts prepared by Si Darling, of Kansas, showing progress being made in use of LP-Gas for power on farms in Kansas, where conditions are similar to those prevailing in Oklahoma and other Southwestern areas.**

onstrations being staged in various sections of the South and Southwest by Phillips Petroleum Co.

H. M. Hone, assistant division manager of the Philgas division, Phillips Petroleum, and F. E. Selim, "Superfuels" sales, Philgas division, made interesting talks. Other Phillips representatives present included B. L. Childers, sales engineer, Philgas division, G. R. Ames, division manager, both of Tulsa, and C. R. Daugherty, manager, Philgas wholesale division.

"Manufacturers and wholesalers of LP-Gas primarily are interested in conversion of tractors to butane and propane fuel power uses because they help to balance the gas ratio, stabilize the price of LP-Gas, and place it on an all-year-round basis," Mr. Hone told the meeting.

Conversions also will help the fuel manufacturers to increase their capacities to meet peak demands and thus tend to prevent winter shortages.

"Under present conditions, we have butane and propane running out of our ears when demand is low in summer months and sometimes have embarrassing shortages in wintertime," the speaker said.

"Therefore, what LP-Gas will do for a tractor should help everybody and I cannot see that it will harm anybody," he continued. "Conversions will help gas distributors and dealers by increasing the market for gas when demand is low during the spring and summer months. Conversions will help the LP-Gas and farm implement dealers by keeping their shops busy making conversions in late winter and early spring months. Dealers who have shops can keep their men busy in summertime on conversions and repairs, and can create good will by giving repair and conversion business to implement dealers who do not handle LP-Gas or LP-Gas equipment."

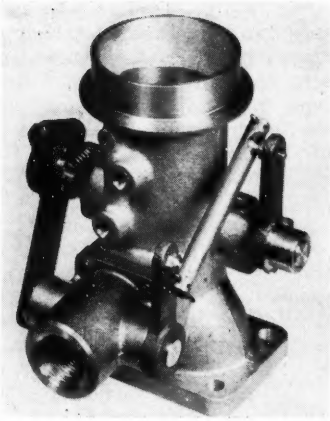
Following the explanation that LP-Gas conditions in Kansas are similar to those in Oklahoma, charts were presented which were prepared by Si Darling, of that state, showing that if 16.3% of the farm tractors of that state converted to LP-Gas, consumption of the fuel for power would equal the total domestic consumption in that state. If 10% of the farm tractors in Kansas were converted, there would be a 1 to 1 ratio.

The average farm tractor in Oklahoma uses 4000 gals. of gas a year if converted for LP-Gas operation, and if only a few in a dealer's territory are converted they would go a long way toward balancing the load, dealers were told.

## Century Announces New Model Of Dual Throat Carburetor

Century Gas Equipment Co., of Lynwood, Calif., announces the introduction of a new model LP-Gas carburetor for use on truck engines having dual throat carburetion. The new model, known as the "Century 3C Dual Throat LP-Gas Carburetor," has been designed to meet the growing demand for this type unit on many of the popular make trucks such as White, Ford F7 and F8.

The new unit incorporates the exclusive Century development known as the "power control tube." This



**Century 3C Dual Throat**

feature makes possible a correct power mixture on all dual throat LP-Gas carburetors with a single power adjustment, Century engineers state. It is possible to balance the diaphragm to a lean or rich mixture quickly with the one adjustment. Because of this, perfect distribution to all cylinders is assured with no deflection of fuel to one side of the manifold. This is accomplished because the center throttle plate merely meters air, not the fuel, so that there is no deflection of fuel to one side or the other.

## Use Fuel Permits Required In Oregon for LP-Gas Vehicles

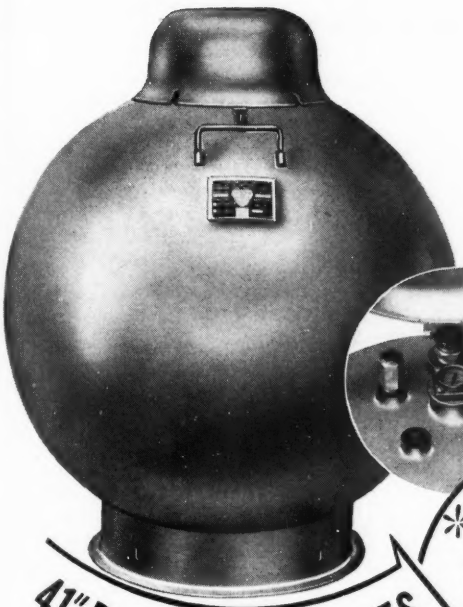
A regulatory problem that might portend serious public relations problems for LP-Gas dealers in the state was pointed out recently by an Oregon distributor.

In a letter to the editors of BUTANE-PROPANE *News*, Oramel Shreeve, Magic Gas & Appliance Co., Eugene, raised the question of the use fuel tax now existing in Oregon as applicable to out-of-state vehicles. This tax is required for all vehicles using liquefied petroleum gas as the propellant, and the law provides that it is illegal for a dealer to sell gas to any truck, bus, or other vehicle which does not display the windshield stickers that are the valid use fuel emblem. (The tax does not apply to vehicles carrying U. S. government licenses or Public Utilities Commission permits.)

### Public Uninformed

Mr. Shreeve reports considerable difficulty, public relations-wise, in having to refuse sale of LP-Gas to motorists and truck drivers from out-of-state when they stop at his plant for re-fueling. In many cases, he says, the drivers have had no information as to the use fuel tax. The emblems for receipt payment of the tariff have been issuable only in the state capital, Salem, and usually the customer vehicles haven't enough fuel left to drive to Salem—and even then, they must wait on the office hours of the capital offices.

In pursuit of answers to the problem, Mr. Shreeve wrote to State Secretary Newbry and received a clarification of the tax ruling, affirming the law that while butane- or propane-using vehicles must display the tax emblem, it will be possible in the future to get permit emblems from Oregon motor division offices in Grants Pass, Medford, Roseburg and Eugene, in addition to Salem. Permits are also obtainable by mail.



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COMPLETE WITH FITTINGS

* $74.00 EACH

In lots of 15 or more.

$76.00 in smaller quantities.

F. O. B. Plant, Los Angeles

As long as present steel stocks last we will continue to accept orders for these popular-sized units at this low competitive price.

In addition to low purchase price, these SUPERIOR SPHERES requre only one man for delivery and installation. They build lasting good-will with your customers by giving long years of carefree service wherever installed.

***Price Subject to Change Without Notice**

**SPECIFICATIONS:**

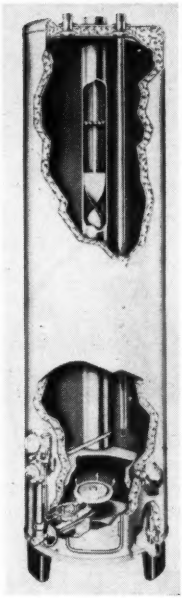
Capacity—150 Water Gallons
Weight—410 lbs.
O.D.—41"
Height—4'-0¾"
Base—2'-1" Dia.
Shell—¼" A-285 FLG Qual. Steel

**SUPERIOR TANK & CONSTRUCTION CO.**

6155 So. Eastern Ave. Los Angeles 22, Calif.

# PRODUCTS

## Water Heater



**Ruud Manufacturing Co., Pittsburgh 1, Pa.**

**Model:** Pacemaker Series.

**Description:** This is one series of four new performance - rated models consisting of 13 sizes of automatic storage water heaters for home and commercial use.

The Pacemaker is of immersion heat-tube design with galvanized steel tank.

The other series consist of Superspeed, Hispeed, and Monel lines. The 1950 series has been designed to blanket the residential and commercial water heating field with a type and size for every hot water requirement.

## Cylinder Hood Base

**Rock Island Metal Foundry, Inc., Rock Island, Ill.**

**Model: Rimco Dura-Base.**

**Description:** The base, fire-resistant and listed by Underwriters', is standard equipment on all Rimco installations. It is made of hydrocarbon compound, weighing slightly under 10 lbs.

Locators on the base make it possible for 60, 100, and 130 lb. tanks to fall into place easily. Small cleats on the bottom prevent skidding and permit solid installation either on concrete walks or on the ground. Large ventilator holes allow adequate drainage and ventilation to the tanks.

## Gas Heater

**Armstrong Products Corp., Huntington 12, W. Va.**

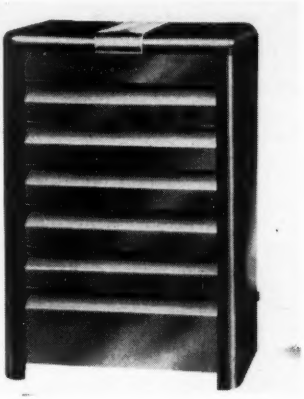
**Model: 6600.**

**Application:** Suitable for small

homes, school rooms, shops, stores, laboratories, halls, etc.

**Description:** This heater, good for cold spells during spring and fall when furnaces are not operating, or as a subsidiary on cold days, is finished in two-tone porcelain enamel. It contains 8 heat exchangers, each with its own burner. These multiple exchangers provide unusually large heat transfer area.

Outer construction permits effective



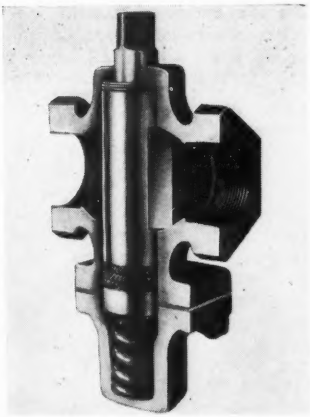
intake of cold air and prompt diffusion after the air has been heated. AGA-approved, the heater can be used with all gases. It stands 34 in. high, 16 in. deep, 28 in. wide, and has a Btu input of 60,000.

## Cylindrical Valve

**Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.**

**Model: Non-Lubricated Cylindrical Valve.**

**Description:** This industrial con-



trol valve provides leak-proof shut-off while eliminating contamination —without use of a lubricant.

The new design includes a permanent seal at the plug stem, sealing packing at the base of the plug, and a fixed-load spring, combined with a closer dimensional tolerance and micro-finish on the plug and body bore.

Torque tests show that the cylindrical valve's greatest torque requirement, about 250 in. lbs. at a line pressure of 250 psi, was equivalent to a force of only 12½ lbs. acting on a lever arm 20 in. long.

## Lightweight Cylinder

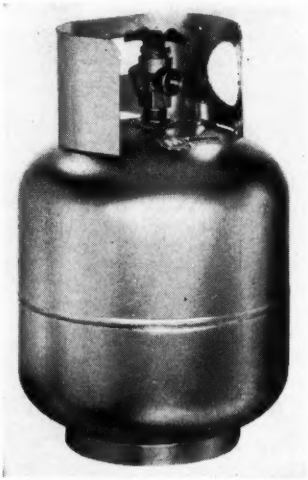
**Manchester Welding & Fabricating Co., 2880 Norton, Lynwood, Calif.**

**Model: Manchester M-20.**

**Application:** For trailer or domestic installations.

**Description:** This ICC cylinder features a new type of protective guard. A unique hole, opposite the 10% valve, enables the operator who

fills the cylinder to shut off the 10% valve without danger of burning or bruising fingers. The all brass valve is so installed that the vapor is



vented in the opposite direction from the operator's hand.

Manchester's new cylinder may be ordered packaged in individual paper cartons which protect finish in shipment and make storage convenient.

## Conversion Unit

**Chattanooga Implement & Manufacturing Co., Chattanooga 6, Tenn.**

**Model: Royal Blue Flame Conversion Unit.**

**Application:** Complete assembly which converts a coal or wood cook stove into an automatic gas range and room heater.

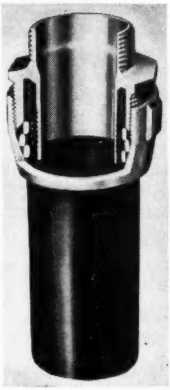
**Description:** The unit is equipped with Robertshaw-Grayson room temperature control with thermo-mag-

netic automatic 100% safety shutoff. Snap action room thermostat is standard equipment.

It has pilot valve and pilot adjustment valve, filter for pilot gas, and main gas shutoff with flow adjustment.

The heavy, cast iron burner produces an intense blue flame. The raised port burner is drilled to precision engineering tolerances. The burner is installed in the firebox and ash area. Controls are mounted outside.

## Hose Coupling



**International Metal Hose Co., Cleveland, Ohio.**

**Model: International Super-Grip Reattachable Hose Coupling.**

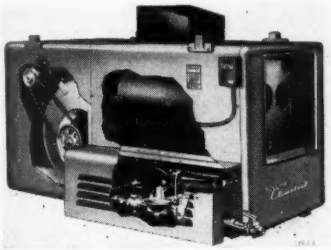
**Application:** Provides positive, leak-proof coupling for use on commercial hoses as well as butane, propane, and other high pressure applications.

**Description:** Consisting of three coils of "flat-wire" with ends ground round,

the grip is left-hand wound so that as the sleeve is tightened in assembly the coils of the Super-Grip are drawn together and "triple-grip" the hose around its entire circumference. A tighter assembly with less effort is effected with the enlarged gripping area plus the tapered construction of the body and sleeve that compresses the grip as the connection is drawn up.

The forged yellow brass body of the coupling is threaded to meet government specifications. It has a smooth inside bore to allow free flow of liquids without resistance or turbulence. The Super-Grip sleeve is yellow brass cast and is amply threaded to provide maximum compression.

The hose coupling is available in a wide variety of sizes to accommodate the outside diameters of any given standard hose.



## Heating Unit

**L. J. Mueller Furnace Co., 1005 W. Oklahoma Ave., Milwaukee 15, Wis.**

**Model: Climatrol Type 155.**

**Application:** Designed for attic or crawl-space installation in new small home construction, or multiple installation in large ranch style homes. It is especially adaptable for basementless homes because it occupies no floor space and permits construction of the house without a utility room.

**Description:** Type 155, a horizontal winter air conditioner, is available in 60,000 and 90,000 Btu capacitie. It can be installed with perimeter, zone control, or conventional forced air systems. It is AGA-approved for LP-Gas, natural, mixed, manufactured, and butane-air gases and for high altitude installation without derating.

Features include all-welded steel, up-draft tubular heat exchanger which has a high crown sheet without flame impingement; cast iron, raised drill port burner which provides instant ignition with no cross-lighting problems; large single port air shutter, free from clogging.

The unit has multi-blade centrifugal blowers at the rear, mounted on rubber to eliminate noise or vibration. Cold air may be brought in from either side, back or bottom. It is equipped with heavy bottom support channels for setting and has hanging brackets for suspended installation.

## New Krug Hand Pump

D. H. Krug Co., Madison, S. D., has recently announced production on its new Model "G" hand pump for liquefied petroleum gas. The new pump replaces the Model "M" pump.

According to Don Krug, company manager, the Model "G" has incorporated a new, leak-proof packing and carries Underwriters' Laboratories approval.

## Don Smith Buys Plant In Fall Brook, Calif.

Don B. Smith of C & S Petroleum Co., Long Beach, Calif., has acquired the Don Anthony Butane Co. of Fall Brook, Calif.

Fack Fivash will manage the business.

Pipe line construction in the streets of Neligh, Neb., for new central plant service.

# Heating Will Be Heavy Load For Neligh, Neb., Town Plant

THE city of Neligh recently entered the ranks of Nebraska communities served by LP-Gas central plants when the city signed a 25-year franchise with the Major-Minor Gas Co.

Major-Minor, one of the three L. R. Forsyth corporations (the others: Blaugas Co., Omaha, and Cygas Co., Neligh and Sergeant Bluff, Iowa), has already laid four miles of gas mains in Neligh and installed a central plant consisting of a 5-Mcf and a 10-Mcf "Gasair" machine for delivery of 1000-Btu propane-air.

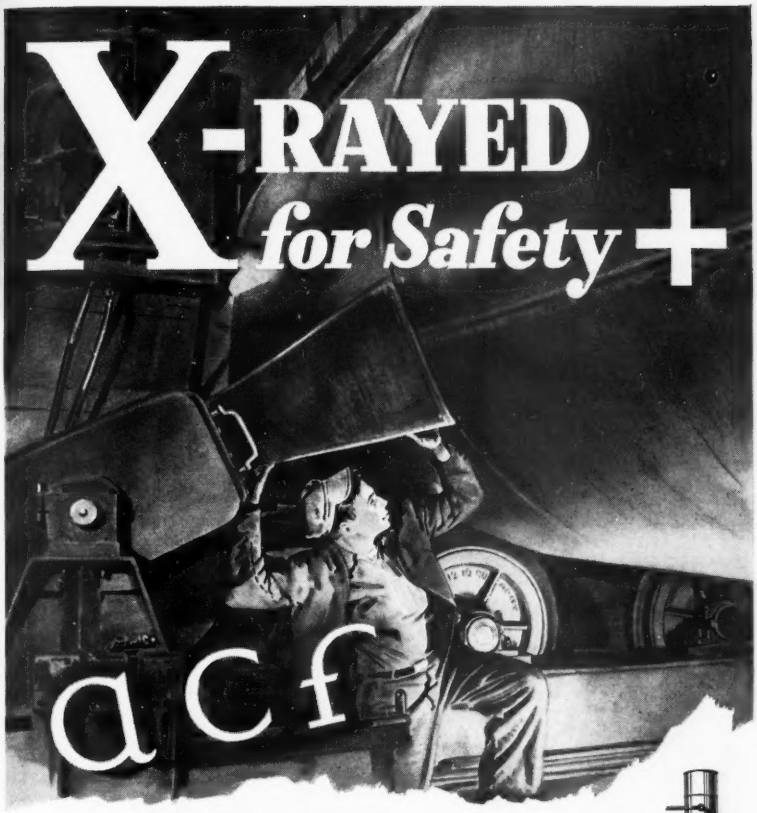
Formerly, LP-Gas service in Neligh, population 2500, had been on the usual individual tank or bottle basis; however, after a thorough study and a city management survey of the number of customers, average load per home, and number of appliances, the franchise agreements were reached.

According to D. K. Scruby, president of Major-Minor Gas, heating will be a large load item. He states: "A year from now (January) we should have 400 customers, and main extensions will be made in the spring and coming season."

Initial meter readings vary with variable loads and types of installations. Billings run from $5 to $32 per customer, per month, and the company will soon be heating the city library, possibly the new, large hospital, and service units in the new high school home economics department.

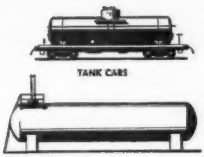
Mr. Scruby recommended equipment from the results of the city's survey. He also gave considerable study to the cities of Huron, S. D., and Grinnell, Iowa, with an eye to installing in Neligh a complete LP-Gas system similar to those in the two cities.

# X-RAYED for Safety +




## Radiograph Interpretation

plays an important role in A.C.F. tank building. Standards for processing equipment, storage tanks, and tank cars are set well above I.C.C. or A.S.M.E. specifications. A.C.F. manufacture also calls for other exacting tests...elongation, tensile strength across the weld, and consistency of the weld itself...resulting in tanks that can take it! It's only natural that when you think of high quality processing equipment, storage tanks, and tank cars, you think of A.C.F.



**AMERICAN CAR AND FOUNDRY COMPANY**

NEW YORK • CHICAGO • ST. LOUIS • CLEVELAND • WASHINGTON • PHILADELPHIA • PITTSBURGH • SAN FRANCISCO

## LPGA Explains Integration Plan For State Associations

Following announcement of its program to integrate state LP-Gas associations into groups more closely allied and accessible to national association services, the Liquefied Petroleum Gas Assn. recently explained more specifically the advantages of the new association system it proposes.

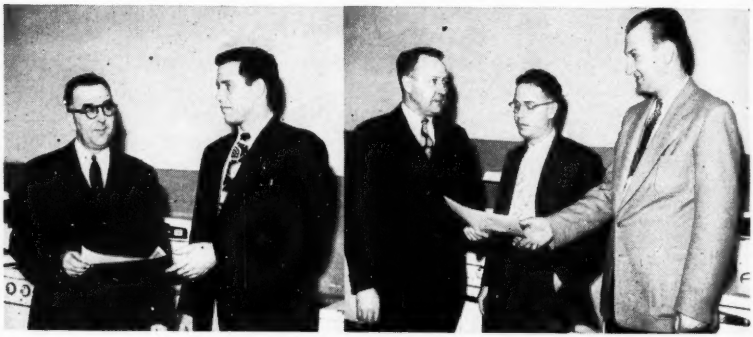
As previously indicated, the national association proposes to set up a dues system whereby local dealers could pay one fee for membership in the local group and the LPGA. This would promote membership in the national body, and would make it financially possible for LPGA to aid effectively in local programs.

This would be done by establishment of a number of district offices, each serving as the headquarters for several states with the same or similar association needs. Since some state associations find it financially unfeasible to maintain a fulltime director or executive secretary to guide local activities, it is felt that district offices, supervised from national headquarters, will provide an ideal answer.

By the integration of the state associations with LPGA, the national body feels that it can institute a program (through the district offices) that will bring the following services to the local level:

1. A more direct voice with which to reach LPGA with local problems, and insurance that the full support of the national group is available.

2. Dual membership — every member will have the double ad-



**Three young men are pictured here who recently completed training courses in the National L-P Gas Institute, Tulsa, Okla., and will travel a total of approximately 14,000 miles (from Tulsa) to their jobs. They appear with two of their instructors in the accompanying photograph. Left to right: Earle A. Clifford, chief instructor, presenting certificate of completion to Richard K. Greene of Cleveland; T. E. Wisby, science instructor, congratulating John Noble, Lancaster, N. Y., and James F. MacArthur of Calgary, Alberta, Canada. Mr. Noble will leave soon for service with the LP-Gas division of Socony-Vacuum Oil Co. in Manila; Mr. MacArthur is commercial sales manager for Western Propane, Ltd., Calgary; and Mr. Greene goes to Guatemala City, Guatemala, C. A., where he will be affiliated with Gas Popular, Inc., exclusive distributor of butane-propane in five Central American republics.**

# You Can Profit By Our Experience!

**PHILLIPS 5-WAY Profit Plan**

**HELPS BULK PLANT OPERATORS MAKE MORE MONEY**

**1. HIGH QUALITY PRODUCT**

Dependable! Phillips high standards and rigid control of production assure uniformity and quality.

**2. DEPENDABLE SUPPLY**

Prompt! Shipments by tank car or truck afford quick, reliable service at all seasons of the year.

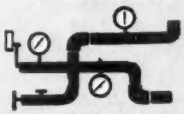
**3. EXPERIENCED ENGINEERING**

Practical! Trained engineers advise on plant design and equipment for large or small installations.

**4. PRACTICAL MARKETING HELP**

Successful! Expert marketing advice available at all times—scaled to fit your specific needs.

**5. OPERATIONAL ASSISTANCE**

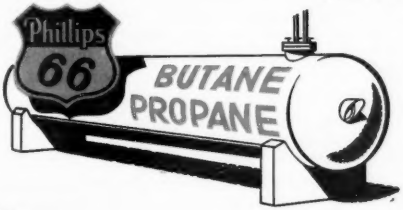


Profitable! Call on Phillips trained staff for aid in safety problems—operating efficiency!

## PHILLIPS PETROLEUM COMPANY

**PHILGAS DIVISION • SALES DEPARTMENT**

**BARTLESVILLE, OKLAHOMA**




*District offices in Amarillo, Tex., Atlanta, Ga., Chicago, Ill., Denver, Colo., Des Moines, Ia., Detroit, Mich., Indianapolis, Ind., Jackson, Miss., Kansas City, Mo., Milwaukee, Wis., Minneapolis, Minn., New York, N. Y., Raleigh, N. C., St. Louis, Mo., Tulsa, Okla., Wichita, Kan.*

Ad No. 3422

vantage of local association and membership in the LPGA, for the same membership fee.

3. A greater degree of unity at national and local levels.

4. Elimination of duplication of effort.

5. Greater cooperation between the states.

The plan should be especially attractive, LPGA spokesmen think, to the operator whose business takes him across boundaries of several states. Membership in all of them is impractical—under the new plan he would pay one fee for membership in his district, and the same fee would pay his national membership.

To insure that each state would retain its voice in action relating specifically to its member-dealers, a district executive committee, formed of the presidents of state associations within each district, would be set up. State or district associations would operate on a percentage of the national dues, which would be returned to the districts by LPGA.

## Natural Gasoline Production In 1949 Up 7.5% Over 1948

Demand at plants for natural gasoline and allied products totaled 6,064,242,000 gals. in the first 11 months of 1949, according to a report issued by the U. S. Bureau of Mines. The total represented an increase in access of 400,000,000 gals., or 7.5%, over the corresponding period of 1948.

During the period, production amounted to 5,943,948,000 gals.—an increase of 398,633,000 gals. over the previous year.

Record high production was achieved last November, the Bureau of Mines said, when 19,928,000 gals. daily were produced, for a monthly total of 597,851,000 gals.

F. T. CARPENTER

F. H. ANDREWS

## United Petroleum Gas Names F. H. Andrews Vice President

F. Harry Andrews has been elected vice president of United Petroleum Gas Co., Minneapolis, at the recent annual meeting of the board of directors, it is announced by Frank T. Carpenter, president.

"Andy" has been manager of the LP-Gas division of United Petroleum since the company's inception. He is well known in the liquefied petroleum gas industry in various fields of operation over the past 20 years.

## Texas Butane Dealers Assn. Adopts Code of Ethics

The obligations of LP-Gas dealers to the general public—often considered an integral part of any dealer's operation, but seldom expressed in concrete terms—will be brought to the attention of Texas butane users in a graphic manner henceforward.

The board of directors of the Texas Butane Dealers Assn., meeting in Dallas in January, decided that the association's membership should "go on record" with statements that recognize the obligations of the dealers to the public. The code of ethics which was the directors' final selection will be made available to all

members—who will display it in their offices. The code adopted in January is as follows:

As a member of the Texas Butane Dealers Assn., I acknowledge the following obligations and pledge my sincere efforts to fulfill them:

1. The obligation of serving the public faithfully and well. I consider myself a public servant and pledge to perform every act with that in mind.
2. The obligation of practicing fair methods of competition by applying the Golden Rule of doing unto others as I would have them do unto me.
3. The obligation of conforming strictly with all laws and regulations enacted for the public benefit.
4. The obligation of maintaining established policies in the operation of my business.
5. The obligation of fairly and honestly representing all merchandise and services I offer the public and performing every agreement and promise completely and promptly.
6. The obligation of participating in all proper efforts for the advancement of my community, of assuming my responsibilities as a member of the community.
7. The obligation of fairness and cooperation with my employees, and my responsibility of training my employes to better serve the public.
8. The obligation to strive by sincere and intelligent cooperation to increase the efficiency of my industry, to cooperate with other members of my industry through the association of which I am a member, and to better serve my industry and the public by joining my efforts with the efforts of other members of my trade association.

## Appliance Sales to Soar In 1950, Says GAMA

The all-time peak period, 1947-1948, of appliance sales will probably be neared this year, according to a GAMA-conducted poll among gas appliance manufacturers. Surpassing last year's sales and pre-war averages is a certainty in every division of the gas industry, it is stated.

The 550 member-manufacturers expected increase over 1949 for gas ranges is 20-30%. Refrigerator, clothes dryer, and incinerator sales averages are expected to be even greater.

Gas-fired central heating equipment, gas floor furnaces, and direct heating equipment will probably meet demands 20% to 30% greater than 1949, and automatic gas water heater sales will show substantial gains.

LEE BRAND

WM. FRALEY

## Money for Advertising Fund Starts Pouring In

Preliminary copy and layout proposals made by The Buchen Co., Chicago agency retained to handle the advertising phase of the LP-Gas promotional program, were approved Feb. 27 at a meeting of the National Committee for LP-Gas Promotion in Tulsa, Okla.

Plans for the fund-raising campaign now under way to provide financial backing for the program were also discussed at the Tulsa session. Lee A. Brand, Empire Stove Co., chairman of the National Committee, reported that brochures containing complete details on the project and enclosing pledge forms had been or were being mailed to well over 9000 companies in all branches of the industry. By the following week the Chicago office was receiving returns of scores of these forms with pledges.

At an earlier meeting, the National Committee had voted to ex-

pand its roster by inviting each of the three sponsoring organizations—Liquefied Petroleum Gas Assn., Gas Appliance Manufacturers Assn. and Natural Gasoline Assn. of America—to double its representation.

LPGA, first to name its additional representatives, has announced the following appointments:

Mark Anton, Suburban Propane Co., Whippany, N. J.; William Fraley, William Fraley & Co., Abilene, Texas; Walter Naumer, Pyrofax Gas Division, Union Carbide & Carbon Corp., New York; James Parker, A. O. Smith Corp., Chicago; Claude Parkhill, Parkhill-Wade, Los Angeles; Thomas Scott, The Weatherhead Co., Cleveland; and Oramel Shreeve, Magic Gas & Appliance Co., Eugene, Ore.

**Mrs. Ethel Smith, of Lakeview, Mich., is getting used to cooking all over again—on a modern bottled gas range presented to her as the winner of an "Old Stove Roundup" contest sponsored by the Michigan Bottled Gas Co., Durand, Mich. Her previous range had been in use for 76 years. Ray Fenstelmacher, of the Rural Bottled Gas Co., Greenville, is presenting the award. Others in the picture are, left background, Mrs. Smith's brother; right background, Lee Burnside, district representative for the Michigan Bottled Gas Co.**

## CALENDAR

**1950**

**April 6-7—Georgia LP-Gas Assn. Annual Meeting. Ansley Hotel. Atlanta.**

**April 12-14—National Petroleum Assn. Hotel Cleveland. Cleveland, Ohio.**

**April 16—New Mexico Liquefied Petroleum Gas Assn. Roswell, N.M.**

**April 17-19—LP-Gas Service School. University of Minnesota. University Farm, St. Paul.**

**April 24-26 — Natural Gasoline Assn. of America Annual Convention. Texas Hotel. Ft. Worth, Texas.**

**April 27-29—Florida LP-Gas Assn. Palm Beach Biltmore Hotel. Palm Beach.**

**May 5-6 — North Carolina - South Carolina LP-Gas Joint Meeting.**

**May 8-11 — Liquefied Petroleum Gas Assn. Annual Convention & Trade Show. Palmer House. Chicago.**

**May 12—Liquid Gas Dealers Assn. of California. First Annual meeting. Hotel Californian. Fresno, Calif.**

**May 15-18—National Fire Protection Assn. Haddon Hall, Atlantic City, N. J.**

**May 18-19—Missouri LP-Gas Assn. Convention and Trade Show. Hotel President. Kansas City, Mo.**

**May 24-25—LPGA meeting for Western dealers. Western Merchandise Mart. San Francisco.**

**May 28-30—Gas Appliance Manufacturers Assn. Annual Meeting. The Greenbrier, White Sulphur Springs, W. Va.**

**June 12-13—Ohio LP-Gas Assn. Annual Spring Meeting. Fort Hayes Hotel. Columbus, Ohio.**

**June 18-20—Colorado LP-Gas Assn. Annual Convention and Trade Show. Troutdale in the Pines, Evergreen, Colo.**

**June 22-24—Texas Butane Dealers Assn. Blackstone and Texas Hotels. Fort Worth.**

**July 12-13—National Butane-Propane Assn. Directors meeting. Rhinelander, Wis.**

**July 24-26—Mid-Continent LP-Gas Service School. University of Kansas. Lawrence, Kans.**

**Aug. 21-22—Kentucky LP-Gas Assn. Annual Convention and Trade Show. Seelbach Hotel. Louisville.**

**Sept. 13-15—National Petroleum Assn. Hotel Traymore. Atlantic City, N. J.**

**Sept. 18-19—National Butane-Propane Assn. Annual meeting. Hollenden Hotel. Cleveland, Ohio.**

**Oct. 2-6 — American Gas Assn. Annual Convention. Atlantic City, N. J.**

**Oct. 2-6—Gas Appliance Manufacturers Assn. Exhibition of Gas Appliances and Equipment. Atlantic City, N. J.**

**Oct. 16-20—National Safety Congress. Chicago, Ill.**

# THE TRADE

HERMAN MERKER

Herman Merker, executive vice president, **Pressed Steel Co.**, Milwaukee, has been named president by the recent action of the company's board of directors, and assumes the duties of the late H. O. Brumder. This advancement follows 29 years of active service which began in the company's shops.

At the same meeting W. G. Brumder, senior vice president of the First Wisconsin National Bank, was elected a director of the company. Other officers were re-elected:

R. P. Dieckelman, vice president and treasurer; W. E. Coakley, vice president; N. A. Evans, vice president; G. F. Brumder, vice president, and G. G. Brumder, secretary. Herbert P. Brumder, Herman Merker, R. P. Dieckelman, W. E. Coakley, G. F. Brumder, and G. G. Brumder are also members of the Board of Directors.

J. F. Ray, vice president in charge of sales, **General Controls**, Glendale, Calif., manufacturers of automatic pressure, temperature level and flow controls, has announced the opening of the company's 22nd branch office at 721 South Orange Ave., Newark, N. J. The new office will include extensive warehouse facilities where a complete line of General Controls will be stocked to more efficiently serve General Controls customers on the Eastern Seaboard.

William Buck, formerly sales engineer for the company's Philadelphia branch, has been named as Newark Branch Manager.

Other General Controls organizational changes include the appointment of R. M. Korty as branch manager in St. Louis, Mo.; the addition of Robert L. Day to the sales engineering staff in San Francisco, and the appointment of Rudolph J. Roedder, sales engineer, as refrigeration specialist in the Los Angeles sales office.

R. W. BRANDT

The appointment of R. W. Brandt, of Chicago, as manager of the LP-Gas sales for **Cities Service Oil Co.**, and the promotion of Thomas L. Jenkins to the position of marketing staff assistant at Chicago is announced by W. H. Merritt, vice president and manager of the company's marketing division.

Mr. Brandt is a comparatively new member of the Cities Service LP-Gas staff. He joined the company about a year ago after having served most of his business career in the field of

**Liquefied Petroleum Gas**

**Cities Service Oil Co.**

•

A DEPENDABLE SOURCE
UNIFORM PRODUCTS
A CAPABLE SUPPLIER
TWENTY YEARS' EXPERIENCE

•

**IN LP GAS ALSO**
CITIES SERVICE
MEANS
GOOD SERVICE

•

**CITIES SERVICE OIL CO. (Del.)**

•

BARTLESVILLE, OKLA.
CHICAGO, ILL.

Other Sales Offices
Cleveland — Kansas City
St. Paul — Toronto

LP-Gas sales and engineering. He is a graduate of the University of Minnesota's school of chemical engineering and has served as district manager of LP-Gas sales for Phillips Petroleum Co. and United Petroleum Gas Co. and chief engineer for Rulane Gas Co. at Charlotte, N. C.

Cities Service Oil Co.'s production of LP-Gas has been increased more than 50% the past year through the construction of new plants and the emphasis on LP-Gas production at existing plants.

Mr. Jenkins transfers from the LP-Gas managership to marketing staff assistant in charge of motor oil sales to fleet and commercial consumer accounts.

CHAS. C. OWEN

As part of its expanded "Janitrol" merchandising program, **Surface Combustion Corp.** has appointed Charles C. Owen sales promotion manager of the Janitrol Division, according to an announcement by W. J. Grover, marketing director. In his new position, Mr. Owen will continue to direct the Janitrol sales training program as well as the general sales promotional activities of that division.

As sales promotion manager, Mr. Owen will coordinate all national and local shows, dealer support activities as well as sales training work.

W. M. Wattman, executive vice president, **Anco Manufacturing & Supply Co.**, Tulsa, has announced the removal of its central states district

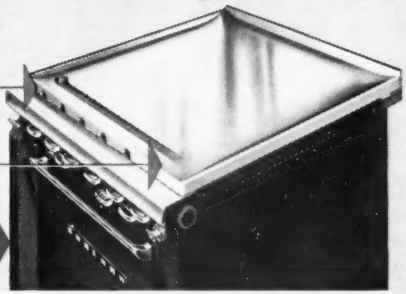
*New!* **An Even Greater Fry Top Range by**

# GARLAND *the Leader*

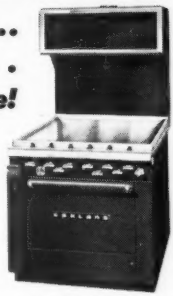
**New Higher Edges reduce spill-overs!**

**New Front Drain Channel for easier drainage!**

**New Grease Container for greater convenience!**



**THREE Outstanding New Features...**
**PLUS bigger frying capacity . . .**
**It's the NEW Garland Fry Top Range!**



*New higher edges* provide greater depth for griddle and reduce spill-overs! *New wide drain channel* extends across the front. The griddle surface slopes slightly toward the channel for better drainage. *New construction* gives you greater frying area, greater frying capacity! *New, big capacity grease container,* for added convenience, fits on front of range. Readily accessible, it lifts off easily for quick emptying of grease.

Again Garland—*the leader*—with all these important new improvements, moves still farther ahead in value! It pays to push the leader! Increase your sales with Garland!

***All Garland units are available in stainless steel and equipped for use with manufactured, natural or L-P gases.***

**New Model 47-29 CX**

AMERICAN SOCIETY OF INDUSTRIAL ENGINEERS MERIT AWARD

**Judged Finest by A.S.I.E.**

# GARLAND* *THE TREND IS TO GAS*

FOR ALL COMMERCIAL COOKING

*Heavy Duty Ranges • Restaurant Ranges • Broilers • Deep Fat Fryers • Toasters*
*Roasting Ovens • Griddles • Counter Griddles*

**PRODUCTS OF DETROIT-MICHIGAN STOVE CO., DETROIT 31, MICHIGAN**

*REG. U. S. PAT. OFF.

# NEW!

## NOW L-P EQUIPMENT THAT SELLS ITSELF!

Here it is, a new merchandising idea by Weldit, a plan that will make more profits for you.

An attractive, self-merchandising, multi-colored counter or wall display unit, equipped with quick release mountings, complete with the following Weldit Torches:

(1) C-48-P. Weldit Full Weldimatic Trigger Control Torch. (L-P gas and atmospheric air.) Adjustable pilot light, needle valve adjustment. For heating, soldering and yes, even chicken singeing.

(1) C-48-WP. Weldit Torch Same as above, only non-automatic.

(1) No. 484 Large Burner L-P.

(1) C-48-B. Weldimatic Torch with No. 470 Burner. Uses propane gas and atmospheric air, provides flame 3" wide at 35 lbs. pressure for paint removal from wood or metal. A hot sales number.

(1) No. 4826-D. Safety Check Tank Connection. Shuts off gas flow if hose becomes ruptured or disconnected when tank is open. 12 ft of Hose included with unit

Each of the above items can be replaced — just reorder by number on the torch

Remember, all Weldit L-P Torches are designed to operate at full tank pressure adjusted at torch valve (no regulator is needed). Each Weldit Torch is equipped with a filter device that eliminates foreign matter.

This is your big opportunity to cash in on greater torch sales. There is a huge market for L-P Torches and if you display them, you will sell them.

Cash in on this plan. Order your self-merchandising display board unit today at this special price — $35.00, retails for $60.00!

Weldit
INC
SINCE 1918

994 OAKMAN BLVD. DETROIT 6, MICH.


offices and warehouse in St. Louis to 308 South Front St., East St. Louis, Ill.

The former warehouse was located at the foot of North Market St. A full line of LP-Gas products is carried at this area warehouse for both pickup and shipment.

E. N. Stiglitz, president of **Stiglitz Furnace & Foundry Co., Inc.**, Louisville, Ky., announces the appointment of the Southwest Distributing Co., Kansas City, Mo., as distributor for Stiglitz Warm-Aire heaters in Missouri.

Albert F. Harris is president of the distributing company.

S. D. Clarke, Jr., has been named purchasing agent of **Kerotest Manufacturing Co.** He has been with the valve manufacturing firm since 1942.

Mr. Clarke replaces E. T. Adams, who has been appointed district manager of the Houston sales territory.

H. F. WERHANE

Harold F. Werhane was elected president of the **Culligan Zeolite Co.**, Northbrook, Ill., on Feb. 21. Emmett J. Culligan, former president, and the company's founder, was elected chairman of the board.

Mr. Werhane's career with the company began in 1937. He was appointed general manager in 1940, and was elected executive vice president in 1945.

The Culligan company is the parent manufacturing organization for

# 154,639,932 MESSAGES ON GAS REFRIGERATION

## IN 12 LEADING MAGAZINES WILL "SOFTEN UP" YOUR MARKET IN 1950

**1.**

**Turn these prospects into customers with strong local newspaper campaigns**

**2.**

**Enroll your company and your salesmen in the BIG 6 Sales Contest**

Prizes . . . victory vacation flights . . . cash . . . more rewards than ever before. All to help you pep up sales for Gas Refrigerators . . . increase gas loads. Join in. Make this newest, most exciting 6 months push your biggest ever!

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INSIDE and OUT
SECURITY
COMPLETELY AUTOMATIC
UNDERFIRED
FIBERGLAS INSULATED
ECONOMICAL OPERATION
LONG LIFE
Yes . . . and it's that Security Quality that has made so many water heater prospects SECURITY owners! Finest materials and skilled workmanship mean dependable performance. These big HEAVY DUTY heaters are smartly styled. And thousands of owners are amazed at their efficiency, economy and long life.
Built to burn ALL GASES. Now is the time to assure yourself a steady . . . and satisfied . . . flow of customers. Build your sales on SECURITY . . . and profit!
SECURITY MFG. CO.
1630-48 Oakland Ave., Kansas City 3, Mo.
SECURITY
HEAVY-DUTY
WATER
HEATERS


almost a thousand franchised Culligan soft water service dealers throughout the U. S. and Canada. The home office and factories are at Northbrook, and a Zeolite production is located in San Bernardino, Calif.

K. R. Knoblauch has been named manager of sales of valve products for the industrial division of **Minneapolis-Honeywell Regulator Co.,** it is announced by L. M. Morley, Honeywell vice president and general sales manager of the company's industrial activities.

Mr. Knoblauch joined Brown Instruments division of the company in 1924 in engineering work.

GEO. E. SMALL

The appointment of George E. Small as chief engineer of the **Florence Stove Co.'s** Kankakee factory is announced by W. T. MacKay, vice president of the firm. He succeeds Herbert M. Reeves who has been appointed director of product engineering for the entire Florence organization.

Mr. Small comes to Florence with a distinguished background in the engineering field. A graduate of Purdue University where he majored in mechanical engineering, Mr. Small brings to his new position wide practical experience in engineering design, planning and development of products, model making and testing.

**Crown Stove Works** has announced appointment of Stan J. Ormsby, 105 Fox St., Buffalo, N. Y., as its new

# TO ALL
# NATURAL GASOLINE MEN
## *GREETINGS*
## from the
## NATURAL GASOLINE SUPPLY MEN'S ASSOCIATION

**We are looking forward to seeing you at the TWENTY-NINTH ANNUAL CONVENTION of the NATURAL GASOLINE ASSOCIATION OF AMERICA April 24-26, Texas Hotel, Fort Worth, Texas**

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Blaw-Knox Construction Co.
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The Brown Fintube Company
The Brown Instrument Company
Brown and Root, Inc.
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National Supply Co.
National Tank Co.
Natural Gas Odorizing Co., Inc.
Naylor Pipe Company
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Wm. W. Nugent & Co., Inc.
The Oil and Gas Journal
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O. L. Olsen Company
Orbit Valve Company
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Perco Div.—Phillips Petroleum Company
Perry Equipment Corporation
Petro-Chem Development Co.
The Petroleum Engineer
Petroleum Engineering, Inc.
Petroleum Processing
Petroleum Refiner
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Process Equipment Co.
Refinery Engineering Co.
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Sanderson-Glendening Co.
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E. W. Saybolt and Co.
A. O. Smith Corporation
Standard Pipeprotection, Inc.
N. C. Stearns Company
Stearns-Roger Mfg. Co.
Superior Manufacturing Co.
Taylor Forge and Pipe Works
Taylor Instrument Companies
Tellepsen Construction Co.
Tube Turns, Inc.
Union Steam Pump Sales Co.
Vinson Supply Company
Henry Vogt Company
Walso Engineering and Construction Co.
Walworth Company
Westcott and Greis, Inc.
Western Supply Company
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John Zink Burner Company

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## 1950 LPGA Convention And Trade Show

## Palmer House, Chicago

## May 8-11

- Nationally prominent speakers on important industry subjects
- Open forums
- Sales and service helps for your business
- Section meetings
- Expanded Trade Show
- Progress report on National LP-Gas Promotional Program
- 1950 Edition of Gas-Flame Gaieties
- Special events for the ladies

*You are invited!*

## LIQUEFIED PETROLEUM GAS ASSOCIATION, INC.

11 S. LaSalle St., Chicago

factory representative in the Buffalo area.

Mr. Ormsby is well acquainted in that locality, having formerly been connected with the Estate Stove Co.

**Bryant Heater Division, Affiliated Gas Equipment, Inc.,** recently announced that Alfred C. Johns has been transferred to the company's Dallas branch office in the capacity of sales engineer.

Mr. Johns will make his headquarters in the Dallas office at 1123 North Haskell Ave., under the management of W. Ned Rast.

H. L. HURLEY

C. K. Madison, Houston district manager for **Rockwell Manufacturing Co.,** has announced that H. L. Hurley will handle all major oil and engineering company accounts in the Houston district, replacing J. W. Northcutt, who was recently appointed Atlanta district sales manager.

Mr. Hurley has been with the company since 1943 as sales and service representative for valves and gas equipment in southwest Texas.

When the **Anderson Stove Co.** made up all-chrome models of its "Sealed Heat" range that cooks with the gas turned off, they were for display only.

Much to the company's surprise, there were immediate demands for production models when the all-

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***A Collection of the Best Articles from Ten Years of* BUTANE-PROPANE *News Reprinted by Subject in Handy Booklets for Instruction or Reference***

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Building a Bulk Plant for Speed and Safety —Accurate Metering—Transfer of LP-Gases— Pump Hook-Ups — Engine in Place of Electric Motor for Transfer — Measuring Liquid in Tanks — Safety Recommendations.

**No. 3 FUEL LOADING AND UNLOADING WITH PUMPS AND COMPRESSORS**
Unloading Tank Cars—Tank Truck Installations — Bulk Plant Design — Important Installation Features — Four Services with One Pump — Determining Vapors in Tank Cars — Compressor Fundamentals.

**No. 4 SERVICING DOMESTIC APPLIANCES**
General Principles of Gas Utilization — Range Servicing — Water Heater, Space Heating Servicing — Meters, Regulators and Related Pipe Fittings — Gas Refrigeration — Appliance Changeovers.

**NO. 5 BULK CONSUMER SYSTEMS**
Regulator Freeze-Ups, Causes and Remedies — Regulator Operation — Vaporization — Line Testing — Determining Proper Storage — Tank Installations — Regulating Pressure — Pipe Lines — Testing Procedure.

**No. 6 SELLING**
13 Ways to Win Customers—Small Dealer Advertising—Who's Afraid of the REA.—All-Year Loads—Four Essentials for Profit—Many Uses for LP-Gases—Utility-Dealer Cooperation.

**No. 7 COMMERCIAL APPLICATIONS**
Commercial Cooking — Cooking Time and Temperature — Selling the Chef — The Tailor Needs Gas—Challenge of Commercial Load —Key to Profit in Commercial Cooking — Gas Heater for Potato Cars.

**No. 8 INDUSTRIAL APPLICATIONS**
Torches and Furnaces — Flexible Heat Treating — The Railroad Load Potential — Fusing Plastics — "Infra Red" Paint Drying — Silver Brazing — Steam Cleaning — High Pressure LP-Gas Lines.

**No. 9 FARM APPLICATIONS**
Dehydration Helps Delivery of Farm Products — Processing Alfalfa — Mechanical Dehydration—Drying Peanuts—Drying Rice—Tobacco Curing — Sweet Potato Curing — Dairying — Weed Burning — Brooding — Engines.

**No. 10 POULTRY BROODING AND INCUBATING**
Market Analysis — Greater Brooder Profits with Gas—Our Place in the Turkey Business — Economics of Gas Brooding — Hazards Reduced by Vaporizer — Butane Underwritas Turkey Profits.

**No. 11 POWER**
ABC's of Butane-Propane for Engine Use — Advantages and Disadvantages — Safe Practices — Tractor Conversions — Diesel Conversions — Converted Engines Need Cold Manifolds — Light Plant Conversions — Adapting Natural Gas Engines.

**No. 12 TOWN PLANTS**
Isolated Systems — Copper Mains — Central Plants—Safe Design and Operation—Serving "Fringe" Areas—More Heat for Less Money —Selling Beyond Mains—Converting to Propane-Air.

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To Help You With Your

PUMPING PROBLEMS

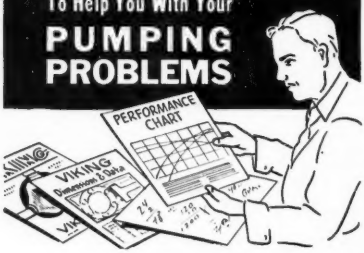
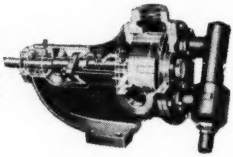



Fig. 124



Do you have a question concerning the type of pump needed and how best to install it for greatest efficiency? Viking is equipped to give you this information and to make recommendations from the most complete line of rotary pumps in the world.

The facilities of Viking are at your disposal for expansion, new design, replacement or service problems.

The complete, nation-wide sales and service organization is also ready to lend a helping hand. Write today for latest free folder 2300B. There's no obligation, of course.

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VIKING PUMP CO. CEDAR FALLS, IOWA

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VIKING
PUMP COMPANY
Cedar Falls, Iowa


chrome units went on display at key Anderson dealers. Buyers insisted on buying all-chrome models, even if there weren't any, though the range lists at over $450.

Structurally, the all-chrome Anderson "Sealed Heat" range is identical with other production models having white-enameled sides and either chrome tops or black tops.

ERIC FLASCHAR

Election of Eric A. Flaschar as president of **The Stacey Bros. Gas Construction Co.**, Cincinnati, to succeed William E. Gruening was announced recently by J. B. O'Connor, board chairman of Stacey Bros. and executive vice president of **Dresser** Industries, Inc., of which Stacey Bros. is a subsidiary.

Arthur E. Harvey, who joined Stacey Bros. in 1938, was advanced from vice president to executive vice president, and Herbert C. Brinkman, who has been with the company since 1926, and its chief engineer for the past 10 years, was elected vice president.

Mr. Flaschar has been general manager of the Stacey-Dresser engineering division of Stacey Bros., which is currently in the process of being moved from Cleveland to Cincinnati, where its operations will be coordinated with those of the parent company.

**E. E. Tullis & Co.** is to be the new distributor in southern California for Chambers gas ranges, it is announced

# SAFE

WHEREVER RUBBER HOSE IS USED TO TRANSFER LP GAS!

## INTERNATIONAL SUPER-GRIP REATTACHABLE COUPLINGS

● Safety is assured by the leakproof performance of Super-Grip couplings. Gripping the hose over a wide area, a positive seal between hose and coupling is achieved. Pinching or bruising the hose at coupling is eliminated. Hose life is lengthened. Easy to install, no special tools are needed. Tightening the coupling contracts the special flat grip. This seal is so effective that on no high-pressure test yet has it been possible to determine signs of leakage.

The extra assurance given by Super-Grip against fire and hazards of leakage makes them a valuable investment to you. Write for catalog and prices.

**The INTERNATIONAL METAL HOSE CO.**

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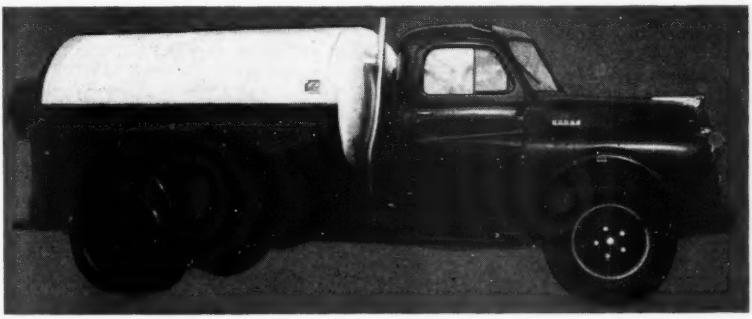

**TRUCK TANKS** **TRANSPORTS**

Propane Systems—57, 123, 240, 317, 485, 686, 955 gallon
Butane Systems—242, 410, 500, 1,000 gallon

***Aboveground and Underground***

# CHARLOTTE TANK COMPANY

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The line of
Least Resistance!
PREMIER
Since
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The new, complete line of 38", 30" and 21" Premier Gas Ranges puts profit in your pocket. They're tops in popularity, too—with all the "most-wanted" customer-winning features. You'll profit with Premier. Feature the complete line —all A. G. A. approved.
SEND FOR COMPLETE CATALOG
Premier
STOVE COMPANY
100 South Sixteenth Street
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by Forest N. Hall, Los Angeles factory representative for the **Chambers Corp.**

Heading up the new company will be E. E. Tullis, who has had considerable appliance merchandising experience in the past.

Charles Hart, former distributor, has retired from active business due to ill health.

Along with the change in distributors, Mr. Hall announced that the Chambers Corp. had perfected a separate built-in oven unit to satisfy demand for decentralization of cooking equipment in the modern kitchen.

Two new appointments are announced by **Perfection Stove Co.**, Cleveland, Ohio. Albert P. Liggett has been named assistant to Executive Vice President D. S. Smith, and Kenneth E. Murphy joins the legal department as assistant counsel.

To meet larger production demands, an extensive modernization program is in progress in both factory and office at the **Crown Stove Works**, of Chicago.

Completed is a large display room, made available for local dealers, and for display and demonstration of the complete line to visiting dealers and salesmen.

Crown Stove Works has been manufacturing stoves since 1887.

## Canada's Imperial Oil Will Install Ontario Propane Plant

A new propane gas plant, costing "several hundred thousand dollars," is under construction at the Sarnia, Ontario refinery of Imperial Oil Ltd., it has been announced by Dr. J. L. Hugfett, general superintendent.

# L-P GASES

**FREE OF SULFUR!**
**FREE OF RESIDUE!**
**FREE OF MOISTURE!**
**UNIFORM IN QUALITY!**

Since '38 we have produced high purity propane and butane. Today in two modern plants, completely equipped with automatic control systems, our products are processed from gas from our own wells. We serve wholesalers from North Dakota to Georgia to New Mexico, and we can serve YOU too. Find out now how our quality L-P gases pay off in complete consumer satisfaction!

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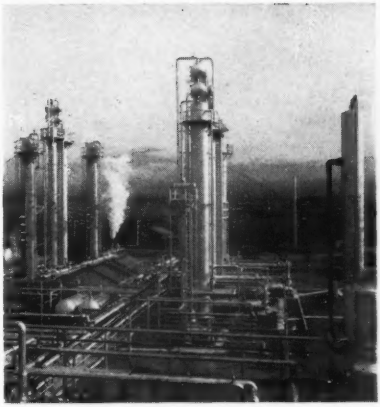

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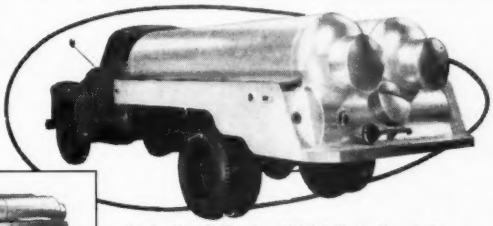
**Deluxe Model Twin Barrel Truck Unit**



Production Built—Low Initial Cost—Smart Appearance—Safe—Recessed Relief Valves—Exceptionally Well Balanced—No Frame Reinforcing Necessary—Unit in Operation in Most States—Motor Fuel Tank in Rear Well Protected—Heavily Undercoated—Special Grade Aluminum Paint

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*Manufacturers of Fine LP-Gas Equipment*

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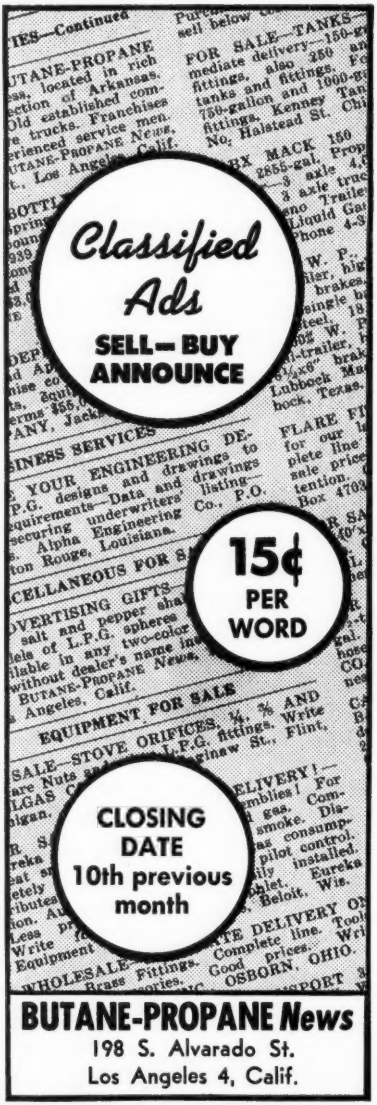


Equipment for the production of the liquefied petroleum gas is designed for an ultimate daily yield of 800 barrels. Initial operation, however, will be something under 300 barrels a day.

Construction now is well under way and it is anticipated that the plant will be completed by mid-summer.

## Walter Miller Named President Of Dri-Gas Corp.

The board of directors of Dri-Gas Corp., of Chicago, has elevated Walter H. Miller from vice president to president and board member, and named Ray Lindahl and Thomas McElhinney vice presidents.

WALTER MILLER

Mr. Miller succeeds B. D. Geroy who exercised the right, reserved by him at the time Dri-Gas Corp. was acquired by Warren Petroleum Corp. in October of 1948, to retire from active management whenever he so desired. Mr. Geroy will continue with the corporation in a consulting capacity.

Mr. Miller joined the corporation in 1947, and has been Mr. Geroy's chief assistant. Mr. Lindahl and Mr. McElhinney have been managers respectively of the cylinder and bulk sales divisions.

Dri-Gas Corp., formerly Illinois Bottled Gas Corp., is a large LP-Gas distributor operating in and adjacent to the Chicago trade area.

# Butane & Propane

**Carter**

**Producers of high quality**
**Liquefied Petroleum Gases Since 1931**
**Wholesale Only**

**THE CARTER OIL COMPANY**
**TULSA, OKLAHOMA**

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CIRCULATORS — RADIANT HEATERS
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**NEW!** eye appealing smart designs
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**NEW!** positive automatic controls
**NEW!** seam welded gas tight heating sections
**NEW!** striking finishes — longer life construction

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Get ready NOW for 1950's best selling high profit line.
New literature available soon . . . write for yours today.

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Get your copy of the new Color-Brochure parading the BRILLIANT FIRE Gas Heater line for 1950...

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- New Features
- New Deluxe Finishes
- New Budget Models

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Remember, BRILLIANT FIRE is the complete line... from small Utility models to apartment size Winter Air Conditioners.

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**HEATERS for All Gases**

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*The* **OHIO FOUNDRY & MFG. CO.**
*Engineers · Manufacturers · Designers*
STEUBENVILLE · OHIO · U.S.A.


## Home Service Program Promised by GAMA

By ED TITUS

The Gas Appliance Manufacturers Assn. on Feb. 15 at the Ritz Carlton in New York tried successfully the idea of inviting a large group of editors to advise with manufacturers and representatives of the gas industry on the subject of CP range specifications. A total of 130 attended.

Those present heard estimates that 2,500,000 ranges will be built this year if John L. Lewis allows it.

From Hugh Cuthrell, president of the American Gas Assn., and vice president of the Brooklyn Union Gas Co., they heard that some of the suggestions and criticisms put forward by the editors would become important research projects in the AGA's laboratories.

### Even Better Ranges Ahead

Mr. Cuthrell, while stating that the CP gas range is the best cooking equipment on the market today, said also that "the gas industry will not rest on its laurels, and there will be more convenience and more economy in the future."

Mr. Cuthrell hinted at the possibility of simplification of ranges to reduce costs; also the possibility of uniform top burner construction for every manufacturer, to lower costs. For a time, he hinted, possibly the industry had been too gadget-minded.

Turning to the future, he predicted that "we'll have a fully automatic gas range by the end of 1950 that uses no energy when not in use."

He mentioned industry studies of catalytic ignition as important.

"Natural gas," he said, "will bring an era of terrific expansion of the industry in the East, starting this fall."

Discussing the LP-Gas industry,

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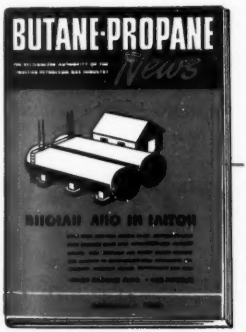
TULSA, OKLAHOMA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Julius Klein, vice president of Caloric Stove Corp., informed his hearers that it was now a common thing in this industry for dealers to take an order in the morning, and have the customer cooking with gas in the afternoon.

Replying to a question on whether a home service program in the rural areas eventually would be part of the coming promotion and public relations program of the LP-Gas industry, Mr. Klein said that this kind of education at the consumer level was one of the primary ideas behind the program.

Chairman of the conference was Miss Irene Muntz, chairman of the AGA Home Service committee, and home service director of Rochester Gas and Electric Co. A welcome was extended by Harold E. Jalass, chairman of the "CP" group and vice president of Cribben and Sexton Co.

Many other important manufacturers, and editors of the principal women's magazines were present and took part in the discussion.

Edwin L. Hall, director of the AGA Testing Laboratories, discussed the procedures of the laboratories, and answered specific questions about their practices and standards.

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